PES 3 A 65 B 300/3 RS 225, ..S 235, .. S 235 s

supersedes

company MWM

engine AKD 112 D

Barrels with starting grooves, special delivery-valve assemblies

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC) RW 9

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,6 - 4,0	0,3			
	6	1,5 - 2,3				
	21	6,7 - 8,4				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
1) Full-load delivery is set at two-face nut (pushbutton not pressed, torque-control spring compressed) and secured with lock nut. 2) Torque control = 0.65 - 0.1 mm 3) Control rod in full direction, press control-rod stop, control rod must assume 21 mm travel. (3a)										

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
S 223, S 235 1000	50 - 52 (1)					(3)		
S 235s 1000	45,5-47,5				100	mind. 5,4		

Checking values in brackets

* 1 mm less control rod travel than col. 2

ATF 21.12.1956

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

PES 4 A 70 B 410 RS 427 RQ 250/1500 A 146 d

supersedes

company: Daimler-Benz

engine OM 324

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0				
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1450	13,5-14,3	1450	13,9	1500	13,6-13,9	530	0	150	6,5-8,1	400	15,8- 21
				1520	8 -13,9			250	4,5-6,7	500	15,5-15,9
				1540	2 -11,4			350	1,2-3,8	700	14,7-15
				1580	0 - 5,5			430	0	900	13,9-14
				1620	0						

Torque-control travel on flyweight assembly dimension a = 0,65 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7

Checking values in brackets

LDA 1.10.63

A2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 4 A 90 B 420 LS 404 EP/RSV 300-1000 A2 A52d

supersedes

company Case

engine A 301 DSR

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,4 - 7,9	0,2			
	6	2,9 - 3,7				
	15	16,0 - 17,3				
200	6	1,1 - 2,0				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.42	1020	12				ca.21	300	5	1000	0
	1050	9,5	without auxiliary				100	19 - 21	900	0,1-0,3
	1100	5	spring				300	4,7-5,3	800	0,5-0,7
	1050	8,8-10,2					350	3 - 4	600	0,7-0,9
	1100	3,8- 6,4	with auxiliary				430	0 - 2	500	0,7-0,9
	1150	1,2- 3,4	spring				500	0 - 1		
	1250	0 - 1				(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1000	87,5-89,5	1010 - 1030	750	97,0-100,0	100	10,4-11,1		
			500	89,0- 92,0				
			1120	0 - 1				

Checking values in brackets

* 1 mm less control rod travel than col. 2

23.10.1958

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A3

A3

PE 3 A 60 B 310 RS 403 EP/MZ 80 AA 113
115

supersedes
company Perkins
engine Typ P - 3

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in [illegible]

B. Governor Settings

Torque control travel mm 1	Leakage: Vacuum pressure drop mm water col. 2	Leakage: Time at least s 3	Control-rod travel limitation breakaway*: Vacuum mm w.c. 4	Control-rod travel limitation breakaway*: Control rod travel mm 5	Control rod travel test: Vacuum mm w.c. 6	Control rod travel test: Control rod travel mm 7	Auxiliary spring auxiliary cam**: Vacuum mm w.c. 8	Auxiliary spring auxiliary cam**: Control rod travel mm 9	Torque control: Vacuum mm w.c. 10	Torque control: Control rod travel mm 11
	500-480	10	450	11-11,5	650	4,6-4,8	450	11 - 11,5		
							500	10,8-11,5		
							550	5,3-10,5		
							600	4,4-5,9		
							700	4,1-5,0		

control rod travel test (cols. 4-11)
= rotational speed 500 rev/min.
adjust breakaway (cols. 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40°C (104°F): rev/min 1	Vacuum mm wat col 2	cm³/1000 strokes 3	Fuel delivery characteristics: rev/min 4	Vacuum mm wat col 5	cm³/1000 strokes 6	idle (stop)** idle (imbalance): rev/min 7	Vacuum mm wat col	Control road travel from full-load to idle: mm cm³/1000 strokes 8
750	450	44 - 46						

Checking values in brackets

KDA 4.4.61

A4

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4

En

PES 6 A 80 B 420 LS 402/EP/RSV 300-750 A1A 53d

supersedes
company Case
engine Typ 900

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,2			
	6	2,2 - 3,0				
	15	11,5 - 12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	5	6	(4) Control-lever deflection in degrees 7	Lower rated speed: rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.46	770	16	without auxiliary spring			ca.27	300	6,5	750	0
	820	11,8					100	19 - 21	600	0,2-0,5
	880	5,5					300	6,2-6,5	500	0,5-0,7
							350	3,5-5,0	350	0,5-0,7
(2a)							420	0 -2,5		
							550	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
750	59,5-61,5	760 - 770			100	7,4-7,9		

Checking values in brackets

* 1 mm less control rod travel than col 2

KDA 29.1.60

A5

A5

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 6 A 80 B 420 LS 402 EP/RSV 300-900 A1 A53d

supersedes

company Case

engine 909

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,2			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.51	920	16	without auxiliary spring			ca.27	500	6,5	900	0
	970	11,4					400	19 - 21	700	0,4-0,6
	1020	5					300	6,2-6,8	500	0,8-1,0
	990	7 - 10	with auxiliary spring				350	4 -5,2	350	0,9-1,1
	1020	4 - 7					420	0 -2,0		
	1100	0 - 3,8				(3a)	500	0 - 1		
	1200	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
900	56,0-58,0	910 - 920	750	58,0-61,0	100	7,4 - 7,9		
			600	59,5-62,5				
			450	60,0-65,0				
			1000	0 - 1				

Checking values in brackets

* 1 mm less control rod travel than col. 2

23.10.1958

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A6

Test Specifications Fuel Injection Pumps (1A) and Governors

PES 4A 80 B 420 LS 401/11 EP/RSV 300---750 A1A 84d

supersedes

company Case

engine 700

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.46°	770	16	without auxiliary spring	ca.27°	300	6,5	750	0
	840	10			100	19 - 21	600	0,3-0,6
	880	5,6			300	6,2 - 6,3	500	0,6-0,9
	850	8 - 10	with auxiliary spring		350	3,8 - 5	400	0,7 - 1
(2a)	900	2,4-5,2			400	0,3 - 3,2		
	940	0 - 2			500	0 - 1		
	1000	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle rev/min 6	(5) cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
750	67,0-69,0	750-765	600	70,2-73,2	100	7,7-8,6		
			450	72,0-76,0				
			820	9,0-17,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

KDA 11.12.59

A7

A7

Test Specifications Fuel Injection Pumps ① and Governors

PES 6 A 90 B 410 RS 395y RQV 250/925-1125 A 326 (V 5082)

supersedes

company: Daimler-Benz

engine OM 326

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 - 0,1 mm (from BDC) RW 18

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 7,9				
	6	3,2 - 4,0				
	15	16,0 -17,3				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
66±1,5	1125	15 - 18	34±1,5	800	14,5-15,5	10±1,5	200	6,4- 8		
	1150	8 - 14		900	12 -15,5		300	3,6-5,8		
	1170	3 - 11		950	9 -13		400	3,6- 4		
	1190	0 - 7,5		1000	5,6- 8,8		800	3,6- 4		
	1230	0		1050	1,2- 3,8		900	2 - 4		
				1090	0	(3a)	1000	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1100	116-118	1130 - 1140			100	mind. 14,4	925	

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 4.3.60

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A8

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PE 6 A 65 B 412 RS 320 EP/RSV 250/600-1250 AO A150B
(AV 6228 d)

supersedes
company MAN
engine D 0026 M

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 - 0,1 mm (from BDC) RW 21

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,8 - 4,2	0,3			
	6	1,1 - 1,8				
	12	5,8 - 6,5				
200	6	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Intermediate rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Upper rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.25	600	10,5	ca.62	1250	10 -10,8	ca.16	250	6	1250	0
	600	10 - 11		1300	5,5 - 7		100	20 - 21	1000	0,6
	650	4,5 - 7,2		1350	1,6 - 3		250	5,7-6,3	600	1,0
	700	3,2 - 3,9		1400	0 - 1,5		350	3,5-4,7		
	750	2 - 3		1450	0 - 1		450	0,5- 3		
	800	0,8 - 2,1				(3a)	600	0 - 1		
	900	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
		1260 (Control lever ca. 67°)			100	mind. 9,9		

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 8.1.61

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PE 6 A 65 B 412 RS 320 EP/RS 250/1000-13 0A0A47d
A96d

supersedes
company: MAN
engine: L 0026 M

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 - 0,1 mm (from BDC) RW 21

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,8 - 4,2	0,3			
	6	1,1 - 1,8				
	12	5,8 - 6,5				
200	6	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
ca.74	1350	10	ca.47	980	10,5	ca.26	250	5,5		
	1350	10 - 11		980	10,5-11,5		100	20 - 21	1330	0
	1400	5,5 - 7,5		1000	8,5-10,5		250	5,2-5,8	900	0,7
	1450	2 - 4		1050	2,8- 5		350	2,5- 4		
	1500	0 - 2		1100	0,5- 2,4		420	0 - 2,5	500	1,1
	1550	0 - 1		1150	0 - 1	(3a)	500	0 - 1		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1350	53,0-56,0	1350	900	57,5-59,5	100	mind. 9,9		
			500	55,0-58,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 25.3.60

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A11

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 4 A 85 B 420 LS 401 EP/RSV 300-1000 A2 A52d

supersedes

company Case

engine A 301 DF
A 301 DR

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5 - 7,0	0,2			
	6	2,3 - 3,1				
	15	14,0 - 14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ①: rev/min 10	mm 11
ca.42	1020	12	without auxiliary spring			ca.21	300	5	1000	0
	1050	9,5					100	19 - 21	900	0,1-0,3
	1100	5					300	4,7-5,3	800	0,5-0,7
	1050	8,8-10,2	with auxiliary spring			③a	350	3 - 4	600	0,7-0,9
	1100	3,8- 6,4					430	0 - 2	500	0,7-0,9
	1150	1,2- 3,4					500	0 - 1		
	1250	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control ⑤ travel rev/min 8	Control rod travel mm 9
1000	74,0-76,0	1010-1030	750	80,0-83,0	100	8,6-9,3		
			500	76,5-79,5				
			1120	0 - 1				

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 23.10.1958

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A12

PE 3 A 60 B 310 S 310 EP/MZ 80 A 92

supersedes

company Perkins

engine P 3

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in [ ]

B. Governor Settings

Torque control travel mm 1	Leakage: Vacuum pressure drop mm water col 2	Leakage: Time at least s 3	Control-rod travel limitation breakaway*: Vacuum mm w c 4	Control-rod travel limitation breakaway*: Control rod travel mm 5	Control rod travel test: Vacuum mm w.c 6	Control rod travel test: Control rod travel mm 7	Auxiliary spring auxiliary cam**: Vacuum mm w c 8	Auxiliary spring auxiliary cam**: Control rod travel mm 9	Torque control: Vacuum mm w.c. 10	Torque control: Control rod travel mm 11
-	500-480	10	450	11-11,5	600	4,9-5,1	500	10,8-11,5	-	-
							550	5,3-10,5		
							600	4,4-5,9		
							700	4,1-5,0		

control rod travel test (cols. 4-11)
= rotational speed 500 rev/min
adjust breakaway (cols. 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40°C (104°F): rev/min 1	Vacuum mm wat. col 2	cm³/1000 strokes 3	Fuel delivery characteristics: rev/min 4	Vacuum mm wat. col 5	cm³/1000 strokes 6	idle (stop)** idle (imbalance): rev/min 7	Vacuum mm wat. col	Control road travel from full-load to idle mm cm³/1000 strokes 8
750	0	44 - 46						

Checking values in brackets

KDA 5.2.1958

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4

En

PES 3 A 60 B 320 RS 296
PES 4 A 60 B 420 RS 391

EP/RSV 250 - 1050 A 1/314

supersedes 7.11.57
company Valmet
engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	6	0,5 - 1,2	0,3			
	12	4,5 - 5,0				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.58	1050	16	without auxiliary spring			ca.25	250	6	1030	0
	1100	11					100	19 - 21		
	1160	4					250	5,7-6,3	420	0
	1100	10 - 12,5					300	4 - 5		
	1150	3 - 7	with auxiliary spring				350	1 -3,5	300	1,2-1,8
	1200	0 - 3					450	0 - 1		
	1250	0 - 1				(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1030	48,0-50,0	1060 - 1080					n250	RW 6

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

A14

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4
ENA 10,1 b
En

E-PE 6 A 90 B 412 RS 332 E-RQ 250/975 A 263

supersedes
company Enusa
engine Typ 16507

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,4 - 7,9	0,4			
	6	2,9 - 3,7				
	15	16,0 -17,3				
200	6	1,1 - 2,0				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,7-16,3	550	16	975	15,8-16	530	0	100	7,5-8		
				1000	9 -16			300	3 -3,5		
				1040	0 - 9			400	0 -1,8		
				1100	0			430	0		

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
900	103,0-106,0	900		(Without capsule)		
900	90,0- 92,0			(With stop capsule fitted)		

Checking values in brackets

10.5.60

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PE $\frac{5}{6}$ A 85 B...S 362 EP/RSV 200-1100 A 1/46

Helix lead 6 + 9 mm

supersedes

company Berliet

engine M 520
M 620

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC) RW 18

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,7 - 6,2				
	6	2,3 - 3,1				
	12	9,0 - 10,0				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.60	1100	16	without auxiliary spring			ca.24	200	6	1080	0
	1150	11					100	19 - 21		
	1200	3,8					200	5,7-6,3	400	0
	1150	9 - 12					300	2 - 4		
	1200	2,5-6	with auxiliary spring				350	0 - 3	250	1,2-1,8
	1250	0 -2,5				(3a)	450	0 - 1		
	1350	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1080	103,5-106,5	1110-1130				100 mind. 12,9		

Checking values in brackets

* 1 mm less control rod travel then col. 2

5.3.59

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4

En

PE 8 A 75 B 402/3 LS 359 - EP/SA 600-1250 A 5 L 1

supersedes

company MWM

engine AKD 412 SV

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,45 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,2-6,6	0,2			
	9	3,2-3,7				
	15	8,5-9,5				
200	9	1,9-2,8				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
Values for autom. timing device (see also WPP 222/1):											
Zero setting n = 400				Start:	n 700 = 0 - 2°						
					n 1000 = 2 - 4°						
				End:	n 1250 = 4 - 6°						

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1250	55 - 57				100	min. 9,9
* Pushbutton not pressed, torque-control spring pressed together (approx. 18 mm control-rod travel) Torque control 0.65 - 0.1 mm						

Checking values in brackets

17.10.58

A17

Test Specifications Fuel Injection Pumps ① and Governors

40

WPP 001/4

En

PES 3 A 60 B 410 LS 356 EP/RSV 500 - 2600 A 3/37d
LS 358

supersedes

company Cerlist-Diesel

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	3,0 - 3,4				
	9	0,8 - 1,6				
	18	6,4 - 7,2				
200	9	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
ca.44	2600	12	without auxiliary spring			ca.11	500	8,5	2580	0
	2640	9,8					300	17 - 19	2400	0,1-0,3
	2700	6,2					500	8,2-8,8	2200	0,3-0,5
	2600	11,6-12,4					800	5,8-7	1600	0,4-0,6
	2700	6,9- 7,8	with auxiliary spring			③a	1200	0 -4,1	600	0,4-0,6
	2800	4,2- 5,9					1600	0 - 1		
	3000	0 - 2,2								
	3100	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ Idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control ⑤ travel rev/min 8	Control rod travel mm 9
2580	35,5-37,5	2610-2630	1000	32,5-35,5	100	6,9-7,9		
			2000	35,2-37,2				
			2400	34,0-37,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

2.6.1958

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 4 A 80 B 420 RS 352 EP/RSV 300-750 A 1/35d

supersedes

company Case

engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 - 12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.46	770	16	without auxiliary spring			ca.27	300	6,5	750	0
	820	12					100	19 - 21		
	870	6					300	6,2-6,8	600	0,4-0,6
	830	10 - 12	with auxiliary spring				350	4 -4,5	400	0,8-1,0
	850	7 - 10,5					400	1 -3,5		
	880	4,5- 7,5					500	0 - 1		
	950	0,8- 3,5				(3a)				
	1050	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
750	69,5-71,5	760 - 770	450	74,5-77,5	100	7,4 - 7,9		
			600	72,0-75,0				
			850	0 - 1 (Measure in accordance with speed				
		The mean value is to be striven for when making new setting!						

Checking values in brackets

* 1 mm less control rod travel then col. 2

KDA 3.10.1957

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 6 A 80 B 410 RS 351 EP/RSV 300-750 A 1/29d

supersedes

company Case

engine Typ 600

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (3) rev/min 10	mm 11
ca.45	770	16	without auxiliary spring			ca.27	300	6,5	730	0
	820	10					100	19 - 21	600	0,2-0,4
	860	5,6					300	6,2-6,8	500	0,5-0,7
	820	8,5-11,5					400	0,5-3,5	350	0,5-0,7
	860	4 - 7,5	with auxiliary spring				500	0 - 1		
	900	0 - 4								
	1000	0 - 1				(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b): rev/min (4a) 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control (5) travel: rev/min 8	Control rod travel mm 9
750	58,5-60,5	760 - 770	450	61,0-64,0	100	7,4 - 7,9		
			600	59,5-62,5				
			850	0 - 1 (Measure in accordance with speed				
The mean value is to be striven for when making new setting!								

Checking values in brackets

* 1 mm less control rod travel than col. 2

20.9.1957

BOSCH Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

A20

A20

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4

En

PE 4 A 60 B 310 RS 282 EP/MZ 80 A 92

supersedes

company Perkins

engine Typ P 4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Testoil-ISO 4113

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in [ ]

B. Governor Settings

Torque control travel mm 1	Leakage Vacuum pressure drop mm water col 2	Leakage Time at least s 3	Control-rod travel limitation breakaway* Vacuum mm w c 4	Control-rod travel limitation breakaway* Control rod travel mm 5	Control rod travel test Vacuum mm w c 6	Control rod travel test Control rod travel mm 7	Auxiliary spring auxiliary cam** Vacuum mm w c 8	Auxiliary spring auxiliary cam** Control rod travel mm 9	Torque control Vacuum mm w.c. 10	Torque control Control rod travel mm 11
-	500-480	10	450	11-11,5	600	4,9-5,1	500	10,8-11,5	-	-
							550	5,3-10,5		
							600	4,4-5,9		
							700	4,1-5,0		

control rod travel test (cols 4-11)
= rotational speed 500 rev/min.
adjust breakaway (cols. 4-5) by means of shims*
cam adjustment (B 8-9 – C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40°C (104°F) rev/min 1	Vacuum mm wat. col 2	cm³/1000 strokes 3	Fuel delivery characteristics rev/min 4	Vacuum mm wat. col. 5	cm³/1000 strokes 6	idle (stop)** idle (imbalance) rev/min 7	Vacuum mm wat. col	Control road travel from full-load to idle mm cm³/1000 strokes 8
750	0	44-46						

Checking values in brackets

KDA 5,2.1958

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4
MAN 11,6
En

PE 8 A 85 B 412 LS 272 RQV 250/750/900 A 274
MAN-Nr. 280

supersedes
company MAN
engine D 1548 MT

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Set tappet clearance 0.5 + 0.1 with control-rod travel 9 mm (from BDC)
Port closing at prestroke

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,3 - 4,8				
	6	1,3 - 2,1				
	12	7,0 - 8,0				
	9	3,1 - 3,8				
200	21	13,1 -14,9				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
65±1,5	900	14,8- 18	50±1,5	750	15 -19,5	10±1,5 (3a)	200	7,3-8		
	920	9,6- 14,4		760	12 -16		250	4,2-6		
	940	4,5- 11		770	9 -13,4		300	3,6-4		
	960	0 - 7,4		790	3 - 7		700	2,5-4		
	1010	0		810	2,2- 3		750	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2) rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a) rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b) rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6) rev/min 6	cm³/1000 strokes 7	Torque-control travel (5) rev/min 8	Control rod travel mm 9
		905 - 920						

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH
Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.
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Test Specifications Fuel Injection Pumps and Governors (1A)

WPP 001/4

En

PE 6A 90 B 312 LS 263 EP/RSV 200-900 A 7 A 359

supersedes

company Henschel

engine 21 on 6 R 1115

Mark start-of-delivery of cyl. 6 (drive end) at control-rod travel 21 on timing device

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

End of pump delivery at prestroke 4,5 ± 0,05 mm (from BDC) RW 9

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5- 6,9	0,4			
	6	3,0- 3,8				
	12	10,0-11,2				
	9	3,6- 4,4				
200	18	mind.17,9				

Testoil-ISO 4113

Adjust the fuel delivery from each outlet according to the values in [ ]

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.62	900	16	without auxiliary spring	ca.25	200	6	880	0
	940	11,6			100	19 - 21		
	980	5,6			200	5,7-6,3	400	0
	950	8,8-11,2	with auxiliary spring		250	4 - 5	250	1,2 - 1,8
(2a)	975	3,8-8,4			300	1,7-3,8		
	1025	0,6-0,3			400	0 - 1		
	1100	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to): rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5), Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
ca.	10,5 mm RW	910 - 920					n 200	RW

Checking values in brackets

* 1 mm less control rod travel than col 2

18.7.60

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

A23

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4
ENA 7,5 b
En

PE 6 A 90 B 421 RS 244 RQ 250/975 A 263

supersedes
company Enasa
engine Z 207

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,0 - 6,4	0,4			
	6	2,6 - 3,4				
	15	13,3 -14,8				
	6	0,1 - 1,1				
200	9	3,3 - 4,1				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ① rev/min 1	Control rod travel mm 2	Full-load speed regulation Setting point rev/min 3	Control rod travel mm 4	Test specifications ④ Control rod travel mm 5	rev/min 6	Idle speed regulation Setting point rev/min 7	Control rod travel mm 8	Test specifications ⑤ rev/min 9	Control rod travel mm 10	Torque control ③ rev/min 11	Control rod travel mm 12
550	15,7-16,3	550	16	975	15,8-16	530	0	100	7,5-8		
				1000	9 -16			300	3 -5,5		
				1040	0 - 9			400	0 -1,8		
				1100	0			430	0	-	-

Torque-control travel on flyweight assembly dimension a = mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ② rev/min 1	cm³/-1000 strokes 2	Control rod stop ③a rev/min 3	Fuel delivery characteristics ③b rev/min 4	cm³/-1000 strokes 5	Starting fuel delivery Idle speed ⑥ rev/min 6	Control rod travel cm³/1000 strokes mm 7
950	79,0 - 81,0	975		(Without capsule)		
950	59,0 - 61,0			(With stop capsule fitted)		

Checking values in brackets

16.9.59

A24

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung

Test Specifications Fuel Injection Pumps ① and Governors

En

PES 6 A 80 B 410 RS 211 EP/RSV 300 - 750 A 1/29 d

supersedes

company: Case/USA

engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	9	3,7 - 4,1	0,3			
	6	0,3 - 0,9				
	15	10,1 -11,2				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
45±3	750	16	without auxiliary spring			27±3	300	6,5	730	0
	820	10					100	19 - 21	600	0,2-0,4
	860	5,6					300	6,2-6,8	500	0,5-0,7
	820	8,5-11,5					400	0,5-3,5	350	0,5-0,7
	860	4 - 7,5					500	0 - 1		
	900	0 - 4	with auxiliary spring			(3a)				
	1000	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
730	58,5-60,5	760 - 770	500	61,0-64,0	100	7,4-7,9		

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 16.4.1957

B1

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 4 A 80 B 410 RS 209 EP/RSV 300-750 A 1/29 d

supersedes

company: Case/USA

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	9	3,7 - 4,1	0,3			
	6	0,3 - 0,9				
	15	10,1 -11,2				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.45	750	16	without auxiliary spring			ca.27	300	6,5	730	0
	820	10					100	19 - 21	600	0,2-0,4
	860	5,6					300	6,2-6,8	500	0,5-0,7
	820	8,5-11,5					400	0,5-5,5	350	0,5-0,7
	860	4 - 7,5	with auxiliary spring			(3a)	500	0 - 1		
	900	0 - 4								
	1000	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
730	62,5 - 64,5	760 - 770	500	65,0-68,0	100	7,4 - 7,9		

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

KDA 7.5.1958

B2

B2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 6 A 75 B 320 RS 192 EP/RSV 250-750 A 4/303

supersedes

company: Volvo

engine:

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,4 - 3,7	0,2			
	6	0,2 - 0,9				
	15	8,2 - 9,2				
200	9	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
43±3	750	16	without auxiliary spring			21±3	250	8	730	0
	780	10					100	19 - 21		
	825	2					250	7,6-8,4	440	0
	775	10 - 12					350	3 -5,5		
	800	5,5- 8					430	0 -2,8	300	1,2-1,8
	900	0 - 2,5	with auxiliary spring			(3a)	520	0 - 1		
	1000	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
750	46,0-48,0	760 - 770			250	7,4-8,4		
					dispersion max. 1,2			

Checking values in brackets

* 1 mm less control rod travel than col. 2

ATF 10.9.1956

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

B3

Test Specifications Fuel Injection Pumps (1A) and Governors

PES 4 A 70 B 420 LS 181 EP/RSV 250 - 1400 A 5/14

supersedes

company KHD

engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0				
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed: rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.55	1400	16		ca.21	250	6		
	1470	10	without auxiliary spring		100	19 - 21	1380	0
	1520	5,6			250	5,7-6,3	520	0
	1500	5,8-9,3			300	4,7-5,2	220	1,2 - 1,8
	1550	2,5-5,2	with auxiliary spring		400	1,2-3,7		
(2a)	1600	0,4-2,6			480	0 -1,8		
	1700	0 - 1			550	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to ( ) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
1380	39,0-40,0	1410-1430						

Checking values in brackets

* 1 mm less control rod travel than col 2

KDA 31.5.60

B4

PE 12 A 75 B 520 178 RQV 250-1050 A 458 d

supersedes
company: K H D
engine. F 12 L 714

Cam sequence and angular spacing:
1 - 8 - 5 - 10 - 3 - 7 - 6 - 11 - 2 - 9 - 4 - 12
0-15-60-75-120-135-180-195-240-255-300-315°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9+0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,7	0,5			
	6	0,9 - 1,7				
	15	8,5 - 9,5				
200	9	1,9 - 2,8				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
66±1,5	1050	15 - 18	-	-	-	10±1,5	200	6 -8	1030	0
	1100	9,5 - 14					300	3,1-4,6		
	1150	4 - 9,7					400	2,4-3,8	900	0,3-0,5
	1200	0 - 5,4					500	1,4-2,8	700	0,8-1,0
	1260	0					600	0,2-1,4		
						(3a)	680	0	500	1,1-1,3

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1030	73,0-75,0	1060	800	70,0-73,0				
Pull starting lever								
1030	78,5-83,5		500	77,0-80,0			1000	

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 1.8.62

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

B5

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 6 A 80 B 410 RS 174 RQV 250 - 900 A 341 d

supersedes

company: Daimler-Benz

engine: OM 321

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,3			
	6	1,2 - 2,0				
	15	10,3 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

PSF 14 S 9 X

PSF 17 S15 X

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
66±1,5	920	15 - 18				10±1,5 ③a	100	7,2- 8	900	0
	940	12,2- 16					250	5 - 7	700	0,6-0,7
	980	6 - 11,8					350	3,3-4,1	500	0,7-0,8
	1020	0 - 7					500	1,6-2,6		
	1070	0					630	0		

Torque control travel a = 0,7 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control ⑤ travel rev/min 8	Control rod travel mm 9
900	52,5-54,5	940						

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 18.5.60

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

B6

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 HAN 2,1e
Edition 10.64
En

PE 3 A 60 B 310 LS 120 EP/RSV 250-850 A 4/11
A 31
139

supersedes 1.2.61
company Hanomag
engine D 21

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,1 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed: rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.54	850	16	without auxiliary spring	ca.26	250	6	830	0
	900	11			100	19 - 21	420	0
	950	4			250	5,7-6,3	290	1,2-1,8
	900	10 - 12,5			300	3,5-5		
(2a)	920	6 - 10,5	with auxiliary spring		350	0,5-3,5		
	950	3 - 7			450	0 - 1		
	1000	0 - 3						
	1100	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to ( ) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
830	40,0-41,0	860-870						

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (1A) and Governors

40

VDT 001/4 HAN 2,1 f
Edition 10.64

En

PE 3 A 60 B 310 LS 120
423/11
1044

EP/RSV 250-950 A 4/11
A31

supersedes 1.2.61
company Hanomag
engine Typ: D 21 R

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,1 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Testoil-ISO 4113

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	4	5	6	Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min 10	Control rod travel mm 11
ca.60	950 16 1000 10,5 1040 4		without auxiliary spring			ca.26	250	6	930	0
							100	19 - 21	420	0
							250	5,7-6,3	290	1,2-1,8
	1000 9 - 12 1050 2,5- 5 1100 0 - 2,5 1200 0 - 1		with auxiliary spring				300	3,5- 5		
(2a)							400	0 - 2		
							500	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat Note changed to)	(3a) Fuel delivery characteristics		Starting fuel delivery (5) Idle		(4a) Idle stop	
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
930	44,0-45,0	960 - 970						

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

Test Specifications Fuel Injection Pumps ① and Governors

En

PE 6 A 75 B 320 RS 113 RQV 250...650 A 101 d

supersedes 1.9.53
company: Hannomag
engine. Hannover-Linden D 93

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	9	4,3 - 4,7	0,3			
	6	1,2 - 1,9				
	12	6,9 - 7,7				
200	9	3,2 - 4,0				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
65±1,5	650	14 - 17,5	-	-	-	10±1,5 (3a)	100	6,4-8,7	620	0
	660	11,6- 15,8					250	3,9- 6	600	0 -0,2
	700	2,6- 9					300	3 -4,2	550	0,5-0,8
	760	0					450	0	500	1,1-1,3

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed (2b) (4a) rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
640	76,0-77,0	655 - 670	500	82,0-84,0				
			400	79,0-82,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

1.8.59

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.
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B10

Test Specifications Fuel Injection Pumps (1A) and Governors

40

VDT-WPP 001/4 IHC 1,8c

Edition 10.64

En

PES 3 A 60 B 320 LS 101, z
S 1161

EP/RSV 250-900 A 4/18

supersedes 11.59
company IHC
engine DD 111
DD 99

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.51	900	16	without auxiliary spring	ca.21	250	5,5		
	930	11,8			100	19 - 21	750	0
	960	6,5			250	5,7-6,3	400	0
	940	8,2-11,4	with auxiliary spring		300	3,7-4,7		
(2a)	960	4 - 8,6			350	0,7-3,1	300	1,2-1,8
	1020	0,3- 2,2			450	0 - 1		
	1100	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
750	33,5-35,5	910						

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors

(1A)

VDT-WPP 001/4 IHC 1,8d

12.64

En

PES 3 A 60 B 320 LS 101 RP/RSV 250-1000 A 4/18
LS 101 Z

supersedes 24.11.59
company IHC
engine DD 111
DD 99

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.58	1000	16		ca.22	250	5,5	750	0
	1050	8,4	without auxiliary		100	19 - 21	400	0
	1080	3,5	spring		250	5,2-5,8	300	1,2-1,8
	1050	6,2- 10			300	3 -4,5		
	1100	1,2- 3,2			350	0 -2,8		
(2a)	1200	0 - 1	with auxiliary spring		450	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5), Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
750 Z	28,5-30,5	1010						
750	33,5-35,5	1010						

Checking values in brackets

* 1 mm less control rod travel than col 2

B12

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 IHC 2,2 m
2. Edition
En

PES 4 A 60 B 420 LS 105 EP/RSV 250-500 A 4/18
LS 105 S
LS 1162 4B18R

supersedes 12.62
company IHC
engine DD 132

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque-control valve) mm 6
1000	12	4,5-5,0	0,3			
	6	0,5-1,2				
	18	8,3-9,1				
200	6	0,3-0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed: rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.25	500	10	without auxiliary spring	ca.15	250	5,5	480	0
	510	7,5			100	19-21	300	1,2-1,8
	525	4			250	5,2-5,8		
	500	10-10,5			300	3 -4,5		
(2a)	525	3,4-5	with auxiliary spring		350	0 -2,5		
	600	0,4-1,5			450	0 - 1		
	~~650~~	~~0 - 1~~						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to: rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
500	30,5-32,5	510-520						
S 480	32,5-34,5							

Checking values in brackets

* 1 mm less control rod travel than col 2

12.64

B13

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4

Daimler-Benz
OM 324

En

PES 4 A 70 B 410 RS 427

RQ 250/1500 A 327 d
EP/FSV 250-950 A 2 A 77d
1150
1300

supersedes

company. Daimler Benz

engine. OM 324

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1000	12	6,5 - 7,0	0,4			
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check (1)		Full-load speed regulation Setting point		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1450	14-14,8	1450	14,4	1500	14,2-14,4	550	0	150	7 - 8	500	15,4-16
				1520				200	6 - 8		
				1540				300	3,3-5,8	600	15 -15,4
				1580				400	0 -1,7	800	14,4-14,6
				1630				430	0		

Torque-control travel on flyweight assembly dimension a = 0,5 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) (2)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
rev/min	cm³/–1000 strokes	rev/min	rev/min	cm³/–1000 strokes	rev/min	Control rod travel cm³/1000 strokes/ mm
1	2	3	4	5	6	7
1000	49,5-51,5	500	500	51,5-54,5		
			700	51,5-54,5		

./.

Checking values in brackets

3.2.60

B14.

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

EP/RSV 250 - 950 A 2 A 77 d

ca.38	950	16	
	1000	11,6	*
	1050	6,2	
	1000	10,5-12,5	
	1050	4,5- 8	**
	1100	2,5-4,5	
	1250	0 - 1	

ca.16	250	6	930	0
	100	19 - 21	800	0,3-0,5
	250	5,7-6,3	600	0,7-0,9
	350	4 - 5	350	0,8-1,0
	400	3 -4,6		
	500	0,5-3,4		
	650	0 - 1		

EP/RSV 250 - 1150 A 2 A 77 d

ca.46	1150	16	
	1200	12,4	*
	1250	7,6	
	1220	9-11,5	
	1250	5 - 9	
	1300	3 - 5	**
	1450	0 - 1	

ca.19	250	6	1130	0
	100	19 - 21	900	0,2-0,4
	250	5,7-6,3	700	0,6-0,8
	400	3,5-4,6	400	0,9-1,1
	500	0,6-3,5		
	700	0 - 1		

EP/RSV 250 - 1300 A 2 A 77 d

ca.50	1300	16	
	1360	11	*
	1420	5,5	
	1400	5,3-8,8	
	1500	0,3-2,7	**
	1600	0 - 1	

ca.18	250	6	1280	0
	100	19 - 21	800	0,4-0,6
	250	5,7-6,3	600	0,8-1,0
	400	3,3-4,6	400	0,9-1,1
	600	0 -1,8		
	700	0 - 1		

Full-load delivery see page 1!

* without auxiliary spring

** with auxiliary spring

B15

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4

En

PES 4 A 85 B 420 LS 445 EP/RSV 300-865 A 5 A 138 d

supersedes

company Case

engine A 301 D

For test purposes, make use of multi-plate clutch and overflow valve attached to pump. Supply pressure 1.0 bar (normal)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5 - 7,0	0,4			
	6	2,3 - 3,1				
	15	13,8 -14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ]

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.41	880	9,5	without auxiliary spring	ca.22	300	5,5	850	0
	900	7,6					750	0,2-0,4
	930	4,9					600	0,6-0,7
(2a)							350	0,7-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat: Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
845	72,0-74,0	865-880	600	77,0-80,0	100	8,0-8,9		
			935	13,0-22,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

23.6.61

B16

Test Specifications Fuel Injection Pumps (1A) and Governors

PES 4 A 85 B 420 LS 401 EP/RSV 300-950 A2 A81d
LS 445 A134d
LS 2054

supersedes
company Case
engine 850/1900

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5 - 7,0	0,4			
	6	2,3 - 3,1				
	15	14,0 -14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ▭

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	4	5	6	Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min 10	Control rod travel mm 11
ca.45	970	16				ca.25	300	6,5	950	0
	1050	11,5	without auxiliary spring				100	19 - 21	800	0,1-0,4
	1130	6					300	6,2-6,8	600	0,3-0,6
	1050	10,8-12,2					400	3 -4,5	400	0,5-0,8
(2a)	1100	6,8-9,2	with auxiliary spring				560	0 - 1		
	1150	3,4-5,8								
	1300	0 - 1								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F)		(6) Rotational-speed limitat Note changed to)	(3a) Fuel delivery characteristics		Starting fuel delivery idle (5)		(4a) Idle stop	
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
950	74,3-76,3	950-965	650	79,0-82,0	100	8,4-9,5		
			500	75,5-79,5				
			1040	13,5-22,5				

Checking values in brackets

* 1 min less control rod travel than col 2

B17

Test Specifications Fuel Injection Pumps (1A) and Governors

En

PES 4 A 85 B 420 LS 445 EP/RSV 300-1000 A 2 A 88 d

supersedes

company J.I. Case

engine Typ A 301 DF

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5 - 7,0	0,4			
	6	2,3 - 3,1				
	15	14,0 - 14,8				
2000	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	5	6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.44	1015	12				ca.24	300	5,8	1000	0
	1050	9,6							850	0,2-0,5
	1100	6					100	19 - 21	700	0,6-0,9
	1050	9,2-10,1					300	5,2-5,8	400	0,9-1,2
	1100	5 -6,8					350	3,5-4,5		
(2a)	1150	2,0-3,7					400	1,6-3,3		
	1250	0,3- 1					550	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
980	75,5-77,5	1000-1015	600	79,0-83,0	100	8,4-9,5		
			700	80,0-83,0				
			1090	12,0-21,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

29.6.62

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

B19

Test Specifications Fuel Injection Pumps (1A) and Governors

PES 6 A 80 B 420 LS 402 EP/RSV 300-900 A 2 A 75 d
A132 d

supersedes
company Case
engine W 10

Inlet pressure 1.5 bar
Test with overflow valve

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min · Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	5	6	(4) Lower rated speed Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.39	920	16	without auxiliary spring			ca.20	300	6,5	900	0
	980	11,8							700	0,2-0,5
	1040	6,3							600	0,6-0,9
									450	0,7-1,0
(2a)										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
880	69,8-71,8	900-915	985	10,0-18,0	100	7,7-8,6		
			650	78,5-81,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

5.4.62

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

B20

Test Specifications Fuel Injection Pumps and Governors (1A)

WPP001/4

En

PES 4 A 85 B 420 LS 445 EP/RSV 300-1000 A 2 A 113 d

supersedes Case
company A 301 DR
engine

For test purposes, make use of multi-plate clutch and overflow valve attached to pump. Supply pressure 1.0 bar (normal)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve)* mm 6
1000	9	6,5 - 7,0	0,4			
	6	2,3 - 3,1				
	15	13,8 -14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ▭

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.47	1015	8,8	without auxiliary spring	ca.28	300	5	980	0
	1040	7,3					750	0,1-0,4
	1080	4,8					550	0,2-0,5
(2a)							350	0,3-0,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
980	62,5-64,5	1000-1015	700	62,0-65,0	100	8,0-8,9		
			1090	16,0-25,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

23.6.61

B21

PES 6 A 80 B 410 RS 64 RQV 250 - 750 A 140 d

supersedes

company Daimler Benz

engine OM 315

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
66±1,5	750	13,6-17,2	-	-	-	10±1,5	100	7 - 8,2	750	0
	760	11,4-15,8					200	5 - 7,4	700	0,2-0,4
	800	4 -10,4					300	2,4- 4	600	0,7-0,9
	840	0 - 4,5					400	0,6-2,4	500	0,9-1,1
	880	0					480	0		
						(3a)				

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
730	76,5-78,5	760 - 770	500	73,5-77,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

20.9.60

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 HEN 6,1 f
Edition 11.64

En

PE 6 A 75 B 412 RS 74 RQ 200/1300 A 340
1007 401
1069 401

supersedes 12.62
company: Henschel
engine: 522 DJF

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,4 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,7 - 5,1	0,3			
	6	1,9 - 2,6				
	15	10,5 -11,5				
200	6	1,0 - 1,8				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISC 4113

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
450	15,7-16,3	450	16	1300	15,8 - 16	420	0	100	5,5-7,4		
				1320	11,4-15,2			200	2,9- 5		
				1340	7 -13			300	0 - 1,1		
				1380	0 - 7,6			320	0		
				1430	0						

Torque-control travel on flyweight assembly dimension a = mm Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1280	63,0-65,0	1280				

Checking values in brackets

B23

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 6 A 80 B 410 RS 64Z RQV 230-1300 A 140 d

supersedes

company Daimler-Benz

engine OM 321

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,6 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
66±1,5	1300	15 - 18				10±1,5 (3a)	200	6 - 8	1300	0
	1340	11,2-15,4					300	3,8-5,6	1100	0,4-0,6
	1400	5 -11,2					400	3,4-3,8	900	0,7-0,9
	1480	0 - 5,2					600	2 -3,8	700	0,9-1,1
	1550	0					800	0		

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point (6): rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
-	-	1305 - 1320						

Checking values in brackets

* 1 mm less control rod travel than col. 2

18.7.58

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps (1A) and Governors

En

PE 6 A 75 B 412 RS 1007 EP/RSV 200/1250 A1A 350d

supersedes

company Henschel

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,4 - 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,6 - 6,1	0,4			
	6	2,3 - 3,1				
	15	11,6 - 12,9				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ▭

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	4	5	6	Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min 10	Control rod travel mm 11
ca.70	1250 16		without auxiliary spring			ca.25	200	6	1230	0
	1300 11						100	19 - 21	900	0,5-0,7
	1340 6						200	5,7-6,3	600	1 -1,2
	1340	4,2-7,6					300	4 - 5	400	1,1-1,3
(2a)	1380	1,3-4	with auxiliary spring				400	0,6-3,4		
	1500	0,3-1					600	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F)		(6) Rotational-speed limitat Note changed to)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
1230	57,0 - 59,0	1270	1000	57,0-60,0				
			700	59,5-62,5				
			500	56,5-60,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

21.5.63

C1

② Test Specifications Fuel Injection Pumps ② and Governors

40

VDT-WPP 001/4 HEN 8,6 e
Edition 8.65

En

PE 6 A 90 B 312 LS 147
263
1008

RQ 200/1100 A 42 D
A 396D

supersedes 12.64
company Henschel
engine: 513 DC

Mark start-of-delivery of cyl. 6 (drive end) at control-rod travel 21 on timing device

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 4,5 ± 0,05 mm (from BDC) RW 9

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,5 - 6,9	0,4			
	6	3,0 - 3,8				
	12	10,0 -11,2				
	9	3,6 - 4,4				
200	18	mind. 17,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1050	11,6-12,2	1050	11,9	1100 1120 1160 1220	11,6-11,9 9,4-11,9 1 - 8,4 0	420	0	50 150 250 320	6,2-8,4 4,2-6,4 0,8-3,4 . 0	400 600 800 1000	15,6-16,2 14,6-15,2 13,3-13,9 11,9-12,2

Torque-control travel on flyweight assembly dimension a = 1,3 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm / cm³/1000 strokes 7
1000	79,0-81,0	600	600 1080	92,0 - 96,0 mind. 77,0	100	mind. 13,9 dispersion max. 2,4 cm³)

Checking values in brackets

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

C2

② Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4 HEN 6,1 k
Edition 11.65

En

PE 6 A 75 B 412 RS 1007 RQ 200/1300 A 433 D
RS 1069 AA433 DL

supersedes 10.64
company: Henschel
engine: 522 DFF
522 FVT

When carrying out repairs, these governors are to be converted to AA 576 DL (HEN 6.1 o): Torque-control spring 1 424 619 007
Sleeve 1 429 999 015
Torque-control travel alter 0.65 ± 0.05

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,4 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,7 - 5,1	0,4			
	6	1,9 - 2,6				
	15	10,4 -11,5				
200	6	0,9 - 1,8				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1250	13,8-14,4	1250	14,1	1310 1330 1350 1400	13,9-14,1 7 -13,5 0 - 9,5 0	440	0	100 200 300 340	6,8-8,1 4,4-6,8 0 - 2 0	400 600 800 1100	15,7-16,2 15,4-15,8 14,9-15,4 14,2-14,6

Torque-control travel on flyweight assembly dimension a = 0,6 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/–1000 strokes 2	rev/min 3	rev/min 4	cm³/–1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1280	59,0-61,0	700	700 1000 1300	62,5 - 65,5 60,0 - 63,0 mind. 59,0		

Checking values in brackets

C3

C3

Test Specifications Fuel Injection Pumps ① and Governors

PE 3 A 80 B 410 RS 75 RQV 200 - 825 A 106

supersedes

company Steyr

engine 313

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0		2,3		
	15	11,4 - 12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
65±1,5	825	15 - 18	-	-	-	10±1,5 ③a	100	7,4 - 8	-	-
	850	11 - 15					200	5 - 7		
	900	3 - 9					300	2,8-3,8		
	920	0 - 7					400	1,6- 3		
	980	0					550	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed ②b ④a rev/min 3	Fuel delivery characteristics high idle speed ⑤a ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle switching point ⑥ rev/min 6	cm³/1000 strokes 7	Torque-control travel ⑤ rev/min 8	Control rod travel mm 9
825	70,5-72,5	830 - 850						

Checking values in brackets

* 1 mm less control rod travel than col. 2

24.8.55

BOSCH Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

C4

Test Specifications Fuel Injection Pumps ② and Governors

40

VDT-WPP 001/4 HEN 4,1 b
Edition 10.64

En

PE 4 A 75 B 412 RS 75 RQ 200/1300 A 213 D
S 1006 394 D

supersedes 8.61
company: Henschel
engine. 517 D 4

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,7 - 5,1	0,3			
	6	1,9 - 2,6				
	15	10,4 -11,5				
200	6	0,9 - 1,8				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1260	12,8-13,6	1260	13,2	1300	13-13,2	430	0	100	6 - 8	300	16 - 21
				1320	8-13,2			200	3,2-5,6	400	15,8-16,2
				1360	0- 8,4			250	0,4- 4	800	14,6- 15
				1420	0			330	0	1200	13,3-13,7

Torque-control travel on flyweight assembly dimension a = 0,9 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1250	59,0 - 61,0	600	500	65,5 - 69,5		
			800	64,5 - 67,5		

Checking values in brackets

C5

C5

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4
HEN 4,1 a
Edition
En

PE 4 A 75 B 412 RS 75 RQ 200/1250 A 167 D

supersedes 8.58
company: Henschel
engine 517 D 4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,7 - 5,1	0,3			
	6	1,9 - 2,6				
	15	10,4 -11,5				
200	6	0,9 - 1,8				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1200	13,2-14	1200	13,6	1250	13,4-13,6	430		100	6,8-8	400	15,8-16,2
				1260	7 -13,6			200	4 -6,8	600	15,1-15,5
				1300	0 - 7,5			300	0 - 2	800	14,2-14,6
				1340	0			330	0	1000	13,6-13,7

Torque-control travel on flyweight assembly dimension a = 0,7 mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/~1000 strokes 2	rev/min 3	rev/min 4	cm³/~1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1230	58,0-60,0	600	600	62,5 - 66,5		
			1000	60,5 - 63,5		

Checking values in brackets

10.64

C6

Test Specifications Fuel Injection Pumps ① and Governors

En

PE 8 A 75 B 320 RS 77 EP/RSUV 200 - 750 A 2/304
12 RS 178

supersedes
company: K H D
engine: A 8 L 614
12

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pumps, Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,7	0,3			
	6	0,9 - 1,7				
	15	8,5 - 9,5				
200	9	1,9 - 2,8				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.71	1150	10	without auxiliary spring			ca.23	200	6	700	0
	1180	8,5					100	19 - 21		
	1220	3,5					200	5,7-6,3	400	0
	750	9,5-10,5					300	0,6-3,5		
	800	5,5- 8	with auxiliary spring				400	0 - 1	240	1,2-1,8
	850	1,8-3,5								
	950	0 - 1				(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
750	68,0-70,0	760-770*					200	RW 6
Control-lever deflection 47°		*Or subsequently marked speed					Setting of idle with shutoff stop scew	

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 6.2.58

C7

Test Specifications Fuel Injection Pumps ② and Governors

40

VDT-WPP 001/4
BOR 5,0 f
Edition En

PE 6 A 60 B 412 RS 97 RQ 200/1425 A 283

supersedes 1.5.61
company
engine D 6 M 5 II

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
450	15,7-16,3	450	16	1400	15,7- 16	440	0	100	5,8- 8		
				1425	15,5- 16			150	4,6- 7		
				1440	11 - 16			200	3,2-5,8		
				1460	7 - 14			250	1,2- 4		
				1490	0 - 9			340	0		
				1560	0						

Torque-control travel on flyweight assembly dimension a = mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1400	56,0 - 58,0	1400				

Checking values in brackets

8.64

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

C8

Test Specifications Fuel Injection Pumps and Governors

VDT-WPP 001/4
BOR 1,8 c
Edition
En

PES 4 A 50 B 410 RS 80/7
S 1075

EP/MZ 60 A 66, 74
A 136

supersedes 1.5.54
company Borgward
engine D 4 M 1,8

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,1 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	12	2,4 - 2,7	0,2			
	9	1,0 - 1,4				
	18	4,7 - 5,2				
200	9	0,7 - 1,1				

Adjust the fuel delivery from each outlet according to the values in [illegible]

B. Governor Settings

Torque control travel mm 1	Leakage: Vacuum pressure drop mm water col. 2	Leakage: Time at least s 3	Control-rod travel limitation breakaway*: Vacuum mmw c 4	Control-rod travel limitation breakaway*: Control rod travel mm 5	Control rod travel test: Vacuum mm w c. 6	Control rod travel test: Control rod travel mm 7	Auxiliary spring auxiliary cam**: Vacuum mm w c. 8	Auxiliary spring auxiliary cam**: Control rod travel mm 9	Torque control: Vacuum mm w.c. 10	Torque control: Control rod travel mm 11
	500-480	10	600	12,5			620 650 760	12 - 13 10,7- 13 6,7-8,7		

control rod travel test (cols. 4-11)
= rotational speed 500 rev/min.
adjust breakaway (cols. 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40°C (104°F): rev/min 1	Vacuum mm wat col 2	cm³/1000 strokes 3	Fuel delivery characteristics: rev/min 4	Vacuum mm wat col 5	cm³/1000 strokes 6	Idle (stop)** idle (imbalance): rev/min 7	Vacuum mm wat col	Control road travel from full-load to idle mm cm³/1000 strokes 8
1300	0	29,2 - 30,2				0	0	5,2-5,4

Checking values in brackets

Testoil-ISO 4113

8.64

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

C9

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 HAT 2,7 a
Edition 10.64

En

PES 3 A 70 B 310 RS 236
RS 441
RS 1047

EP/RSV 250-750 A 4/310
200-750 A 4 A 310

supersedes 1.9.59
company HAT 2,7b 3.8.61
engine H a t z
D 100

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0 4			
	6	1,2 - 1,9				
200	6	0,7 - 1,5				
			Port closing difference between control-rod travel	12 mm and	21	4,5-5,5° camshaft

Testoil-ISO 4113

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

EP/RSV 250-750

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.46	750	16	without auxiliary spring	ca.24	250	6	730	0
	800	9,8					430	0
	840	3,8			100	19 - 21	300	1,2-1,8
					250	5,7-6,3		
	800	8,6-11,2			300	3,8-4,9		
	850	2,5- 4,8	with auxiliary spring		400	0 -1,9		
(2a)	900	0 - 2,2			500	0 - 1		
	950	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to): rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
730	53 - 55	760 - 780						

Checking values in brackets

* 1 mm less control rod travel than col 2

C10

The numbers denote the sequence of the tests

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.40	750	16	without auxiliary spring			ca.16	200	5,5	730	0
	780	9,5					100	19 - 21	400	0
	810	2,5					200	5,2-5,8	250	1,2-1,8
	780	8 - 11					280	2,4-3,8		
(2a)	810	2,5- 5	with auxiliary spring				320	0 -2,8		
	860	0 - 2					400	0 - 1		
	900	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

Testoil-ISO 4113

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat. Note: changed to ...)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
(2a)										

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat. Note: changed to ...)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

PES 4 A 80 B 310 LS 417* EP/RSV 200 - 1200 A1A 46

S 417 Z **

supersedes

company: Meadows

engine. 4 DC 330
78 PS
** 85 PS

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,45 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,9 - 4,4				
	6	0,8 - 1,5				
	15	9,8 -11,3				
200	9	2,7 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
ca.67	1200	16				ca.25	200	6	1180	0
	1250	10,9	without auxiliary				100	19 - 21	400	0
	1290	5,9	spring				200	5,7-6,3	250	1,2-1,8
	1240	11 - 13					300	2,0-3,9		
	1280	5 - 9					400	0 - 1		
	1340	0,4-3,2	with auxiliary							
	1400	0 - 1	spring			(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2) rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a) rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b) rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control travel (5) rev/min 8	Control rod travel mm 9
700	68,5-70,5	1210 - 1230						
700	73,5-77,5	1210 - 1230						

Checking values in brackets

* 1 mm less control rod travel than col. 2

23.9.59

C12

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4
Edition 17.3.64

En

PE 4 A 65 B 310 LS 416 RQV 300-725/1400 A 306

supersedes
company Hanomag
engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	5,7 - 6,2				
	6	1,4 - 2,1				
	18	9,7 -10,6				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
ca.66	1400	15 - 18,4	ca.54	700	14,7-15,3	ca.10	100	6,3-8,0		
	1420	13,4-17,2		800	6,0-14,4		300	4,9-7,2		
	1500	6,0-11,6		1000	2,5- 3,5		500	1,5-4,2		
	1580	0 - 6		1200	2,5- 3,5		660	0		
	1660	0		1500	0	(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1400	40,75-42,75	1410-1420	-	-	-	-	725	

Checking values in brackets

* 1 mm less control rod travel than col 2

C13

BOSCH Geschäftsbereich KH, Kundendienst, Kfz-Ausrüstung

Test Specifications Fuel Injection Pumps and Governors

(1A)

WPP 001/4

En

PES 4 A 80 B 420 LS 401 EP/RSV 300-900 A 2 A 54 d

supersedes

company Case

engine 800, 709, W 9

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,2			
	6	2,2 - 3,0				
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.39	920	16	without auxiliary spring	ca.20	300	6,5	900	0
	980	11,8			100	19 - 21	750	0,5-0,7
	1050	5,4			300	6,2 -6,8	600	0,9-1,1
					550	0 - 1	400	1,1-1,4
(2a)					400	2,2 -4,2		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note: changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery, Idle: rev/min 6	(5) cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
900	68,5-70,5	910 - 920			100	8,5-9,1		

Checking values in brackets

* 1 mm less control rod travel than col 2

29.1.60

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4
BERL 7,9
9,5b

En

PE 5/6 A 85 B...S 398 EP/RSV 200-1100 A 1/46

supersedes
company: Berliet
engine M 520
M 620

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5				
	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ①: rev/min 10	mm 11
ca.60	1100	16				ca.24	200	6	1080	0
	1150	11	without auxiliary spring				100	19 - 21		
	1200	3,8					200	5,7-6,3	400	0
	1150	9 - 12					300	2 - 4	250	1,2-1,8
	1200	2,5- 6					350	0 - 3		
	1250	0 -2,5	with auxiliary spring			③a	450	0 - 1		
	1350	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control travel ⑤ rev/min 8	Control rod travel mm 9
1080	103,5-106,5	1110-1130			100	mind.12,9		

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

16.3.59

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4
DAI 10,8
En

PES 6 A 80 B 410 RS 387 RQ 250/1000 A 292 d

supersedes
company: Daimler-Benz
engine: OM 326 - 150 PS (f. Libanon)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	6	2,2 - 3,0				
1000	9	5,5 - 6,0				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
950	14,6-15,4	950	15	1000 1020 1040 1060 1110	14,8-15 9,6-14,4 3,6-11.4 0 - 8,2 0	540	0	100 200 300 400 440	7,6-8,1 6- 8,1 3,5-6 0 -2,2 0	500 600 700 800	16 - 16,2 15,7-16 15,2-15,6 15 -15,2

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/–1000 strokes 2	rev/min 3	rev/min 4	cm³/–1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
980	93,0 - 95,0	500	500 700	90,0-93,0 92,5-94,5	100	8,6 - 9,2

Checking values in brackets

C17

PE 3 A 85 B 420 LS 219,z RQ 400/1950 A 88 D
S 346,Z A 285 D
S 2065,Z A 285 D

supersedes 10.62
company Krupp
engine D 344.6
D 344.8

Set all cylinders to tappet clearance 0.3 + 0.05 mm at TDC; mark port opening at cylinder 1 (drive end).

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

Port closing at prestroke mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,8 - 4,3	0,3			
	6	0,5 - 1,2				
	12	6,4 - 7,4				
	9	1,1 - 1,9				
200	21	10,6 -12,9.				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
800	15,6-16,4	800	16	1950	13,8-14,2	720	0	200	7 - 8,1	1100	15,8- 16
				1980	8 -13,5			300	6 - 8	1400	15,3-15,6
				2000	3 -12			400	4 - 6,3	1800	14,3-14,6
				2040	0 - 8			500	1,4-4		
				2120	0			620	0		

Torque-control travel on flyweight assembly dimension a = 0,6 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1900	82,5-83,5	1200	1200	83,0-85,0	100	21 mm RW
			1500	83,0-85,0		
1900	85,0-86,0	1200	1200	90,0-92,0		
			1500	88,0-90,0		

Checking values in brackets

C18

Test Specifications Fuel Injection Pumps (1) and Governors

VDT-WPP 001/4 DAI 4,6 h
Edition 3,64

En

PES 6 A 80 B 410 RS 174
S 318
S1062

RQV 250-1400 A 132 D
A 132 z D

supersedes 15,8.58
company Daimler-Benz
engine OM 312 mA

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6	1,2 - 2,0				
	15	10,4 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
65±1,5	1400	13 - 16				10±1,5 (3a)	150	6,2- 8	1200	0
	1440	10,5-14,1					300	4,1-5,4	1000	0,1-0,3
	1520	5,4- 9,8					500	1,4-3,5	800	0,5-0,7
	1600	0 - 5,5					600	0 - 2	600	1,1-1,3
	1690	0					700	0	400	1,3-1,5

Torque control travel a = 1,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control (5) travel: rev/min 8	Control rod travel mm 9
1200	51,5-52,5	1405-1420	500	55,5-58,5	100	mind.7,9	A132D-1250	
			700	55,5-58,5			A132zD=1325	
			1000	51,0-54,0				
			1400	52,0-55,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

C19

CA9

BOSCH Geschäftsbereich KH Kundendienst, Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4

En

PE 4 A 80 B 410 S 311 RQ 250/1125 A 242 d
C 410 RS1085 AA 242 D

supersedes

company Steyr

engine WD 413 C

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	6	1,2 - 2,0				
1000	9	4,1 - 4,5				
	15	10,3 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1000	14,3-15,1	1000	14,7	1125	14,2-14,7	530	0	150	6,4-8,1	400	16 - 17
				1140	10 -14,7			250	4,2-6,6		
				1160	5 -12			300	2,8-5,4	600	15,4-15,8
				1180	0 -8			350	1 -3,5	800	14,8-15
				1240	0			430	0		

Torque-control travel on flyweight assembly dimension a = 0,4 mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1000	71,0 - 73,0	C, col. 7	500	71,0-74,0	100	10,4 - 11,4
			800	70,5-73,5	Set control-rod stop to contact	
			1100	mind.70,5		

Checking values in brackets

VSK 15.11.68

C20

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4

En

PE 4 A 80 B 410 S 311 RQ 250/1100 A 242 d

supersedes

company Steyr

engine W 413 o

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,3			
	6	1,2 - 2,0				
	15	10,3 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1050	14,4-15	1050	14,7	1125	14 - 14,7	520	0	150	6,4-8,1	500	15,6-16,2
				1160	4 - 13			250	4,2-6,5	700	15 -15,4
				1180	0 - 8,5			350	0,8-3,5	900	14,7-14,8
				1230	0			420	0		

Torque-control travel on flyweight assembly dimension a = 0,4 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/–1000 strokes 2	rev/min 3	rev/min 4	cm³/–1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1000	71,0 - 73,0	500	500	71,0 - 74,0		
			800	70,5 - 73,5		
			1100	mind. 70,5		

Checking values in brackets

KDA 25.6.1957

C21

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4

En

PE 6 A 70 B 320 RS 309 EP/MN 80 A 96

supersedes
company Perkins
engine R 6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
1000	12	6,5 - 7,0	0,4			
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in [illegible]

B. Governor Settings

Torque control travel mm 1	Leakage Vacuum pressure drop mm water col 2	Leakage Time at least s 3	Control-rod travel limitation breakaway* Vacuum mm w.c. 4	Control-rod travel limitation breakaway* Control rod travel mm 5	Control rod travel test Vacuum mm w.c. 6	Control rod travel test Control rod travel mm 7	Auxiliary spring auxiliary cam** Vacuum mm w.c. 8	Auxiliary spring auxiliary cam** Control rod travel mm 9	Torque control Vacuum mm w.c. 10	Torque control Control rod travel mm 11
-	500-580	10					350 375 400 (1000	9,5-10 8 -10 4 -8,5 3,3- 4)	-	-

control rod travel test (cols 4-11)
= rotational speed 500 rev/min
adjust breakaway (cols. 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40°C (104 F) rev/min 1	Vacuum mm wat col 2	cm³/1000 strokes 3	Fuel delivery characteristics rev/min 4	Vacuum mm wat col 5	cm³/1000 strokes 6	Idle (stop)** rev/min 7	Idle (imbalance) Vacuum mm wat col	Control road travel from full-load to idle mm cm³/1000 strokes 8
1000	0	49,5-51,5						

Checking values in brackets

KDA 24.6.1957

BOSCH Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

C22

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PES 3 A 60 B 410 LS 358 EP/RS 500/3000 A 0 A 343 d

supersedes

company: Cerlist

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	3,0 - 3,4				
	9	0,8 - 1,6				
	18	6,4 - 7,2				
200	9	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
ca.72	3000	10,6	-	-	-	ca.38	500	6	2980	0
	3000	10,6-11,6					200	20 - 21	2800	0,2
	3100	7,6-9					500	5,7-6,3	1600	1,0
	3200	4,8-6,4					700	5,2-6,5	800	1,0
	3300	2,6-4,4					900	0,8-3,8		
	3400	0,2-3					1100	0 -2,8		
	3600	0-1				(3a)	1400	0 - 1		

Torque control travel a = mm

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control (5) travel: rev/min 8	Control rod travel mm 9
2800	35,3-36,3	3000	800	30,0-32,0	100	6,9-7,9		
			1600	31,5-34,0				
			3000	34,0-36,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

KDA 19.10.60

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

Test Specifications Fuel Injection Pumps and Governors (1A)

WPP 001/4

En

PES 4 A 80 B 410 RS 352 EP/RSV 300-900 A 2/43 d

supersedes

company Case

engine 400 Super

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque control valve) mm 6
	6	2,2 - 3,0				
1000	9	5,5 - 6,0	0,4			
	15	11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ▭

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.39	920	16		ca.20	300	6,5		
	1000	10,2	without auxiliary spring		100	19-21	900	0
	1050	5,5			300	6,2-6,8	750	0,4-0,6
	1000	8,7-11,2			400	2 -4		
(2a)	1050	4 - 7,5	with auxiliary spring		550	0 -1	400	1,0-1,2
	1100	0 - 4						
	1200	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
900	68,5-70,5	910 - 920	450	76,0-81,0	100	8,3-9,1		
			600	75,0-78,0				
			750	73,0-76,0				
			1020	0 - 1				

Checking values in brackets

* 1 mm less control rod travel than col 2

KDA 9.5.1958

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

C24

C24

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MAN 11,1 b
2. Edition
En

PES 6 A 95 D 410 LS 2409 RQ 250/1150AB839DL,869DL
RQV..AB847DL, 850DL, 868D
LS 2409Z RQ..839DL,RQV..850DL(2)
LS 2409Y RQ..839DL,RQV..850DL(3)
RQV-govervor-VDT-WPP 001/4,6th and 7th supplement!

supersedes 7.73
company MAN
engine D 2556MX/MXE/MXF (1 - 232 PS)
D 2556MX/MXF (2 - 200 PS)
D 2556M/MF (3 - 200 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,4 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ..839 DL , RQ .. 869 DL ***

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle-speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
600	15,7-16,3	600	16,0	1170 1200 1250 1320	15,0-15,4	540	0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0 0	880 1020 1100	15,8-16,0 15,4-15,6 15,3-15,4

Torque-control travel on flyweight assembly dimension a = 0,2 mm

Speed regulation: At 1190-1205

1 mm less control rod travel

***

600	15,7-16,3	600	16,0	1170 1200 1250 1320	15,6-16,0 11,0-15,0 0 - 9,6 0	550	0	150 250 350 450	6,5-8,1 4,7-6,9 1,7-4,2 0	-	-

0

1190-1205

12.74

D1

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)		Degree of deflection of control lever	rev/min	Control rod travel mm (3)		rev/min (1)	mm
1	2	3		4	5	6		7	8	9		10	11
ca.50	1170	14,4-17,4		-	-	-		ca.13	50	7,7-10,8		200	0,5-1,2
	1220	9,0-14,0							150	6,8- 9,6		480	3,2-4,0
	1280	1,0-7,8							250	4,2- 7,1		800	5,0-5,4
	1350	0							350	0- 3,0		1180	8,4
									410	0		1280	
								(3a)				1350	End

Torque control travel a = 0,4 mm n = 500-750(847D,850D) 868D - a = 0 mm!

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min (4a)	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
PE 2409 RQ..869DL, RQV..868DL:								
1150	121,5-123,5	1190-1205*	500	max.118,5	100	11,9-12,9		
					250	7 mm RW		
						**		
						180-100 U/min		
PE 2409 RQ..839DL, RQV..847DL, 850DL:								
1150	117,5-119,5	1190-1205*	800	116,0-119,0	100	11,9-12,9		
			500	max. 118,5	250	**		
						180-100 U/min		
PE 2409Z RQ..839DL, RQV..850DL:								
1150	93,5-95,5	1190-1205*	800	95,0-98,0	100	11,9-12,9		
			500	max.91,5	250	7 mm RW		
						**		
						100-180 U/min		
PE 2409Y RQ..839DL, RQV..850DL:								
1150	103,0-105,0	1190-1205*	800	105,5-108,5	100	11,9-12,9		
		* 1mmRW less than column 2	500	max. 103,5	250	7 mm RW		
						**		
						100-180 U/min		

** Change-over point

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min (4a)	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MB 10,8 1
2. Edition
En

PES 6 A 90 B 120 RS 495 — RQ 250/1100 A320D (1)
PES 6 A 90.. 320 RS 517,2057 — (A) A392D (1)
PES 6 A 90.. 410 RS 494,2018 — EP/RSV 250-900A1..378D (2)
PES 6 A 90 C 410 RS 2099 — 250-1000A1B378D (3)

supersedes 3.64
company: DAI 10,81-m
engine: Daimler-Benz OM 326

Helix lead 7.5/10 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 - 0,1 mm (from BDC) RW 18

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	7,1 - 7,6	0,4			
1000	6	2,1 - 3,3				
	12	11,3 - 12,8				
200	9	4,4 - 6,1				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1050	14,7-15,3	1050	15	1100	14,6-15,0	520	0	100	7,0-8,1	600	15,7-16,0
				1120	10,4-14,4			200	5,5-7,6	700	15,3-15,6
				1140	6,0-12,0			250	4,4-6,5	800	15,0-15,2
				1170	0-8			300	2,9-5,1		
				1220	0			420	0		

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1000 strokes Control rod travel mm 7
700	115,0-117,0	500	500	113,5-116,5	100	15 - 16
			1000	114,0-117,0		
			1080	113,0-117,0		

Checking values in brackets

12.72

D20

The numbers denote the sequence of the tests

B. Governor Settings

(2)

(1) Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Control-lever deflection in degrees	Lower rated speed: rev/min	Control rod travel mm	(3) Torque control: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.49	900	16				ca.23	250	6	880	0
	940	12,2	without auxiliary spring				100	19 - 21	700	0,3-0,5
	990	5,8					250	5,7-6,3	500	0,7-0,9
	950	10 - 12					400	1,5-3,2	300	0,9-1,1
	1000	3,8-6,8					500	0 -1,6		
(2a)	1050	0,6-3,4	with auxiliary spring				550	0 - 1		
	1150	0-1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ...) rev/min	(3a) Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle (5): rev/min	cm³/1000 strokes	(4a) Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
880	109,0-112,0	910	700	111,0-115,0	100	mind.14,4	250	6
			500	114,0-118,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

(3)

(1) Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Control-lever deflection in degrees	Lower rated speed: rev/min	Control rod travel mm	(3) Torque control: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.54°	1000	16				ca.24°	250	6	980	0
	1040	12,2	without auxiliary spring				100	19 - 21	800	0 - 0,2
	1080	7,2					250	5,7-6,3		
	1070	6,5-10					350	3,5-4,7	300	0,8- 1,0
(2a)	1100	3,7-6,4	with auxiliary spring				550	0 - 1		
	1220	0-1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ...) rev/min	(3a) Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle (5): rev/min	cm³/1000 strokes	(4a) Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
900	107,5-109,5	1020	500	113,5-117,5			250	6,0
			700	110,5-113,5				
			980	107,5-109,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

PES 6 A 95 C 420 LS 2197,Z RQ 200/1050 AB 601 R (1)
PES 6 A 95 C 410 RS 2108 RQ 200/1050 AB 680 DL (2)
RS 2108 RQ 200/1100 AB 680 DL (3)

supersedes
company MAN
engine D 2156 HM2US (1)
D 2156 HM5H (2)
D 2156 HM6H (3)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0+0,1(2197) mm (from BDC) 1,7+0,1 (2108)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm³/100 strokes	mm	cm³/100 strokes	mm
1	2	3 2197	4	2	3 2108	6
1000	9	8,4 - 9,0	0,4	9	8,4 - 9,4	
	6	4,0 - 5,0		6	4,0 - 5,0	
	15	16,3 -17,8		15	16,6 -17,8	
200	6	1,4 - 2,6		9	5,9 -6,9	

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

RQ 200/1050 AB 601 R (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600	15,7-16,3	600	16,0	1070	15,8-16,0	580	0	200	6,8-8,1	-	-
				1100	10,0-14,6			300	4,6-5,8		
				1150	0 - 8,5			400	1,3-3,8		
				1220	0			480	0		

Torque-control travel on flyweight assembly dimension a = mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm³/-1000 strokes	rev/min	rev/min	cm³/-1000 strokes	rev/min	Control rod travel cm³/1000 strokes / mm
1	2	3	4	5	6	7
1050	116,5-118,5	C, col. 6-7	800	114,5-118,5	200	6 mm RW

Checking values in brackets

11.73

D22

B. Governor Settings

RQ 200/1050 AB 680 DL (2)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600 **	19,6-20,4	600	20,0	1070 1100 1150 1210	18,8-19,2 12,0-17,5 0 - 10 0	560	0	100 200 300 460	9,6-11,6 7,9-11,0 5,0-8,1 0	800 900	19,8-20,0 19,2-19,4

** Control lever ca. 49°

Torque-control travel on flyweight assembly dimension a = 0,2 mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1050	110,0-112,0	* C, col. 6-7	700 500	109,5-113,5 max. 114,0	200	6 mm RW

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

RQ 200/1100 AB 680 DL (3)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600 **	19,6-20,4	600	20,0	1120 1150 1200 1260	18,8-19,2 13,0-18,0 0 -10,6 0	560	0	150 250 350 460	9,2-11,7 6,8- 9,8 3,9- 6,2 0	800 900	19,8-20,0 19,2-19,5

Torque-control travel on flyweight assembly dimension a = 0,2 mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1100	110,0-112,0	*	700 500	109,5-113,5 max. 114,0	200	6 mm RW
Breakaway: 1085-1100 1140-1155		= 1,5 mmRW less	than column 2			

Checking values in brackets

Test Specifications Fuel Injection Pumps ② and Governors

40

VDT-WPP 001/4
DAI 10,8b2
En Edition 6.68

PES 6 A 90 B 410 RS 494,516 2020,2047 2064 RQ 250/1100 A 240D A 301 D

supersedes 3.64
company Daimler-Benz
engine OM 326

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9-0,1 mm (from BDC) RW 18

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,1 - 7,6	0,4			
	6	2,1 - 3,3				
	12	11,3 -12,8				
200	9	4,4 - 6,1				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1050	14,7-15,3	1050	15	1100	14,6-15	520	0	150	6,4-8,1	600	15,7-16
				1120	10 -14,5			200	5,5-7,6	700	15,3-15,6
				1140	6 - 12			250	4,4-6,5	800	15 -15,2
				1170	0 - 8			300	2,9-5,1		
				1220	0			420	0		

Torque-control travel on flyweight assembly dimension a = 0,3 mm Speed regulation. At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1000	114,5-116,5	500	500	112,0-116,0		
			700	114,5-117,5		
			1080	113,0-117,0		

Checking values in brackets

Test Specifications Fuel Injection Pumps ② and Governors

PES 6 A 80 B 412 LS 485 RQ 250/1250 A 361 D
2083 MAN-Nr. 271

See VDT-BMP 211/27 (EP)

supersedes
company MAN
engine D 0836 M 1 U

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,3			
	6	1,2 - 2,0				
	15	9,8 -11,2				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,6-16,4	550	16	1250	14,5-14,8	540	0	100	6,5-8,1	800	15,8-16
				1280	7,8-13,2			200	5,3-7,3	1000	15,4-15,7
				1300	3,8-11,2			300	2,9-5,3	1200	14,7-15
				1320	0 - 8,6			400	0-1,9		
				1380	0			440	0		

Torque-control travel on flyweight assembly dimension a = 0,4 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/–1000 strokes 2	rev/min 3	rev/min 4	cm³/–1000 strokes 5	rev/min 6	cm³/1000 strokes; Control rod travel mm 7
1230	68,0-70,0	650	650	70,0-73,0		
			800	68,5-71,5		

Checking values in brackets

E1

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 MWM 3,0a
Edition 5.71

En

PES $\frac{4}{6}$ A 80 C 320 RS 2196 EP/RSV 300-1500 A2B 472 DR
B 475 DR
B 511 DR
B 529 DR

supersedes
company MWM
engine TD 208 - $\frac{4}{6}$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2.45 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,3			
	6	1,2 - 2,0				
	15	10,3 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.58	1500	16,0	without auxiliary spring	ca.19	300	6		
	1550	11,9			100	19 - 21		
	1600	7,0			300	5,7-6,3		
	1580	7,4-10,6	with auxiliary spring		450	3,2-4,5		
(2a)	1650	3,4- 6,5			700	0 - 1		
	1820	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
1480	59,0-61,0	1520	600	dispersion max. 2			B 511DR	472 DR, → Stop
							B 529DR	475 DR; n 300= RW 6,0

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

E 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 HEN7,8a
Edition 1.68

En

PE 6 A 85 C 412 RS 2227 RQ 250/1300 AB 639 DL
RQV 250-1300 AB 652 DL ./.

supersedes
company Henschel
engine 561

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	6	1,3 - 2,1				
	9	4,9 - 5,5	0,4			
	15	12,3 -13,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 250/1300 AB 639 DL

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1250	14,9-15,5	1250	15,2	1320	14,9-15,2	560	0	200	6,4-8,1	500	15,8-16,3
				1350	9,5-14,2			300	4,1-6,2	700	15,4-15,7
				1400	0 - 8,8			400	0 -2,7	900	15,2-15,3
				1470	0			460	0		

Torque-control travel on flyweight assembly dimension a = 0,25 mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1300	76,0-78,0	600	800	68,5-72,5	100	ca.17 mm RW
			600	65,5-68,5		

Checking values in brackets

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B. Governor Settings

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.66	1300	15,0-18,0	-	-	-	ca.10	180	6,4-8,0	1300	0
	1350	10,8-14,8					250	4,2-6,6	1000	0,2-0,4
	1400	6,3-11,5					400	2,7-3,8	800	0,4-0,6
	1460	0 - 7,2					600	1,3-2,7	600	0,4-0,6
	1550	0					820	0		
						(3a)				

Torque control travel a = 0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1300	76,0-78,0	1320	800	68,5-72,5	100	18,0-18,6		
			600	65,5-68,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure - in bar gauge pressure

Pump/governor	Setting Gauge pressure = bar	Measurement Gauge pressure = bar	Control rod travel- diminution / difference mm

En

Testoil-ISO 4113

E6

PE 6 A 90 C 410 RS2230	RQ 200/1200 AB644 L	(1)	supersedes
	RQV250-900/1200AB719L	(2)	company: Van Doorne
PE 6 A 90 C 410 RS2304	RQ 250/1200 AB748L	(1)	engine: DH 825
	RQV250-1000/1200AB746L	(3)	
PE 6 A 90 C/D 410 RS2333	RQ 250/1200 AB748 L	(1)	D 410RS2387 EP/RSV..611DL, 612DL(4-5)
	RQV250-1000/1200AB746L	(3)	

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3+0,1(RW 9) mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery "C" u. "D" cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	5,8 - 6,3	0,4			
1000	6	2,5 - 3,4	Port closing difference between travel 8 mm and 12			
	12	10,0 -11,1				
200	9	3,2 - 4,4		21	4,5-5,5°	control-rod camshaft
Test with	overflow	valve and "B"	lines			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
200/1200 AB 644											
600	19,7-20,3	600	20,0	1200	19,6-20,0	560	0	100	9,1-11,7	-	-
				1280	7,2-14,7			200	7,3-10,4		
**				1330	0 - 9,2			300	4,3- 7,7		
				1410	0			460	0		
250/1200 AB 748											
650	19,7-20,3	650	20,0	1200	19,6-10,0	600	0	150	9,0-11,7	-	-
				1280	11,8-16,8			250	7,1-10,0		
				1380	0 - 9			400	1,8-5,2		
				1480	0			500	0		

** Control lever ca. 49°

Testoil-ISO 4113

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B. Governor Settings

Upper rated speed				Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rodtravel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
RQV 250-900/1200 AB 719 (2)											
ca.68	1300	15,0-18,0									
	1560	0		ca.58	800	12,0-13,0	ca.12	150	6,1-7,8	-	-
ca.65	1200	14,0-16,5			900	5,0- 7,0		250	5,2-6,8		
	1300	6,8-11,6			1000	1,8- 2,2		350	3,8-5,2		
	1380	0 - 7			1200	1,8- 2,2		500	1,6-2,8		
	1480	0			1270	0	(3a)	660	0		
RQV 250-1000/1200 AB 746 (3)											
ca.68	1200	14,0-16,5		ca.59	750	13,6-16,3	ca.12	150	6,2-7,7	-	-
	1250	9,6-13,8			800	10,4-13,0		250	5,0-6,6		
	1300	4,8-10,4			950	1,8- 2,2		350	3,2-4,9		
	1350	0 - 7			1100	1,8- 2,2		500	1,5-2,8		
	1430	0			1200	0		650	0		
EP/RSV 250-900 A7 B611D (4)											
ca.62	900	16,0					ca.26	250	6,0	980	0
	950	10,3	**					100	19 - 21	500	0
	980	5,2						250	5,7-6,3		
	960	7,0-10,0						300	3,2-4,4	300	0,8-1,0
	990	2,3- 6,0	***					400	0 -1,5		
	1050	0 - 1,5									
EP/RSV 250-1200 A5 B612D (5)											
	1200	16,0					ca.22	250	6,0	1180	0
	1260	11,7	**					150	19 - 21	600	0
	1330	5,6						250	5,7-6,3		
	1280	8,7-10,8						350	2,1-3,8	300	0,8-1,0
	1350	2,3- 5,5	***					470	0 - 1		
	1450	0 - 1									

Testoil-ISO 4113

** without auxiliary spring

*** with auxiliary spring

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1200	80,0-82,0	1200	1000	max.81,0	100	ca.20,0mmRW		
(2-3)	82,0-84,0	1220			250	6 mm RW	(→ RQV..)	
					100	ca.20mmRW		
(4-5) In accordance with special nameplate on pump!							(→ EP/RSV)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

PES 6 A 85 C 310 LS 2235 — RQ 250/1200 AB 649 D (1)
RQ 250/1200 ABV9204 D* (2)
LS 2235,Z* — RQ 250/1200 AB 682 D (3)
RQV250-1200 ABV9937 S (4)

supersedes 7,4c-4,68
company: 7,4d-3,69
engine: Büssing U 7 D (156 PS) (135 PS)*

*Version "Z" and V9204D applies to 135 bhp!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3+0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,9 - 5,5	0,4			
1000	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ▭.

Testoil-ISO 4113

B. Governor Settings

RQ 250/1200 AB 649 DL (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
250/1200 AB649 D (1)											
550	15,7-16,3	550	16,0	1220	15,6-16,0	520	0	100	6,7-8,1	-	** = 0mm
				1250	10,0-14,6			200	5,1-7,2		-
				1300	0 - 8,7			300	2,5-4,8		
				1360	0			420	0		
250-1200 ABV 9204 D (2)*											** =0,25mm
** Torque-control travel on flyweight assembly dimension a =				mm		Speed regulation: At					1 mm less control rod travel
550	15,7-16,3	500	16,0	1220	14,9-15,2	520	0	100	6,7-8,1	600	15,9-16,0
				1250	8,3-13,3			200	5,3-7,2	750	15,6-15,8
				1300	0 - 7,0			300	2,6-4,8		
				1350	0			420	0	900	15,2-15,3
250/1200 AB682 D (3)											** =0,2mm
550	15,7-16,3	550	16,0	1200	15,2-15,3	510	0	100	6,7-8,1	550	16,0
				1220	15,0-15,3			200	5,2-7,2	800	15,9-16,0
				1250	9,0-13,8			300	2,5-4,7	900	15,8-16,0
				1300	0 - 7,5			410	0	1000	15,5-15,8
				1360	0					1100	14,2-14,3

E9

B. Governor Settings

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1200	14,0-17,0	-	-	-	ca.12 (3a)	200	6,6-8,0	1200	0
	1250	9,7-14,0					300	3,4-5,7		
	1300	5,0-10,6					400	2,1-3,4	1000	0,1-0,3
	1350	0 - 7,4					500	0,3-1,5		
	1450	0					620	0	600	0,3-0,5

Torque control travel a = 0,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1200	78,5-80,5	500	800	74,5-78,5	100	ca.18 mmRW		
1200	68,0-70,0	500	700	61,5-64,5				
			500	56,0-59,0				
1200	77,5-79,5	600	900	77,5-80,5	100	ca.17 mmRW		
			600	70,5-73,5				
1200	72,0-74,0	600	900	68,5-71,5	100	ca.16 mmRW		
			600	63,5-66,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
						(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1200	73,5-75,5	1220	900	77,5-80,5				
			600	70,5-73,5				
1200	72,0-74,0	1220	900	68,5-71,5				
			600	63,5-66,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

PE 6 A 90 C 320 RS 2236 RQ 250/1200 AB 653 (1)
D RS 2384 RQV250-1000/1200AB707 (3)
EP/RSV 250-1200 A5B523 (5)
PE 6 A 90 C 320 RS 2292 RQ 250/1200 AB749 (2)
D RS 2386 RQV250-1000/1200 AB747 (4)
EP/RSV 250-1200 A5 B 523 (6)

supersedes
company: van Doorne
engine: DT 615

EP/RSV..534, 566 (7)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

See P. 3, RQV governor WPP 001/4, 6th Supplement

Port closing at prestroke 2,2+0,1(RW)) mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4	9	5,1 - 5,5	
	6	1,3 - 2,1		6	1,6 - 2,6	
	15	12,3 -13,1		-	- -	
200	9	3,9 - 4,4		9	1,9 - 2,9	

Adjust the fuel delivery from each outlet according to the values in ☐.

Difference between CRT9 + 21 2.5-3.5°

B. Governor Settings

RQ .. 653, 749 (1,2)

Checking of slider PRG check ① rev/min 1	Control rod travel mm 2	Full-load speed regulation Setting point rev/min 3	Control rod travel mm 4	Test specifications ④ Control rod travel mm 5	rev/min 6	Idle speed regulation Setting point rev/min 7	Control rod travel mm 8	Test specifications ⑤ rev/min 9	Control rod travel mm 10	Torque control ③ rev/min 11	Control rod travel mm 12
650 (VH	19,7-20,3 ca. 49°)	1200	20	1200	19,6-20,0	610	0	150	9,0-11,7		
				1250	15,0-18,8			250	7,1-10,0		
				1300	9,5-15,2			350	4,0- 7,2		
				1380	0 - 9,0			450	0 - 3		
				1480	0			510	0		

At 1250 = 0.5-1.2 mm control-rod travel less than full-load position!

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F) rev/min 1	cm³/–1000 strokes 2	Control rod stop ③a rev/min 3	Fuel delivery characteristics ③b rev/min 4	cm³/–1000 strokes 5	Starting fuel delivery Idle speed ⑥ rev/min 6	Control rod travel cm³/1000 strokes mm 7
Pe	2236 + 2384 /	RQ.. 653 (1):				
	0,5 kp/cm²					
1200	78,5-80,5				100	ca. 20 mm RW
Pe	2292 + 2386 /	RQ..749 (2):				
1200	78,5-80,5	500			100	ca. 20 mm RW

Checking values in brackets

8.73

E11

B. Governor Settings

RQV..AB 707,747 (3, 4)

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1200	14,0-16,5	ca.59	750	13,6-16,3	ca.12	150	6,2-7,7	0-110	Start
	1250	9,6-13,8		800	10,4-13,0		250	5,0-6,6	350	1,0-1,8
	1300	4,8-10,4		950	1,8- 2,2		350	3,2-4,9	450	2,2-2,8
	1350	0 - 7		1100	1,8- 2,2		500	1,5-2,8	700	4,3-4,7
	1430	0		1200	0		650	0	1000	7,4-7,6
						(3a)			1370-1490	End (11)

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
Pe 2236 + 2384 / RQV.. 707(3):								
0,5 kp/cm²								
1200	77,5-79,5	1220			100	ca. 20mmRW		
Pe 2292 + 2386 / RQV.. 747 (4):								
1200	80,5-82,5	1220			100	ca. 20mmRW		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

EP/RSV..523 (5,7)

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.56	1200	16,0				ca.22	250	6,0	1180	0
	1280	10,2	without auxiliary				150	19 - 21		
	1330	5,8	spring				250	5,7-6,3	500	0
	1260	10,6-11,6					350	1,6-3,7		
	1350	2,7- 5,8	with auxiliary				450	0 - 1	250	0,3-0,5
	1460	0 - 1	spring			(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
Pe 2236 + 2384 / EP/RSV .. 523 (5)								
0,5 kp/cm²								
1200	77,0-79,0	1220			100	ca. 20mmRW		
(7) In accordance with special nameplate on pump!		534: 1120					250	6,0
		566: 910					200	6,0

Checking values in brackets

* 1 mm less control rod travel than col. 2

The numbers denote the sequence of the tests

B. Governor Settings

EP/RSV ..

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	 5	 6	(4) Lower rated speed Control-lever deflection in degrees 7	 rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
250-1100 A5 B 534										
ca.52	1100	16,0				ca.22	250	6,0	1080	0
	1160	11,8	*				150	19 - 21	250	0,3-0,5
	1200	6,8					250	5,7-6,3		
	1200	7,0-9,8					350	1,7-3,7		
(2a)	1250	3,0-5,8	**				450	0 - 1		
	1360	0 - 1								
200-900 A7 B566										
ca.57	900	16,0				ca.22	200	6,0	880	0
	940	11,0	*				100	19 - 21	400	0
	970	4,0					200	5,7-6,3		
	940	7,0-11,0					250	3,2-4,6	230	1,2-1,8
	970	2,0- 6,2	**				350	0 - 1		
	1050	0 - 1								

* without auxiliary spring

** with auxiliary spring

Test with "B" lines and overflow valve!

RQV governor: pay attention to WPP 001/4, 6th supplement!

Setting of manifold-pressure compensator (for RQ..653, EP/RSV..523, RQV..707):

1. Basic setting of pump and governor (Section A - B) without manifold-pressure compensator.

2. Set full-load delivery on governor.

3. Attach manifold-pressure compensator, expose stop screws, pump n = 700, control lever in full-load position.

3.1 Check stop adjustment, n = 700 min^{-1}, correct by altering initial tension of spring, i.e. turn guide bushing of helical spring:

RQ ..653 - Start 0.07-0.09 kp/cm^2
End 0.28-0.30 kp/cm^2) Difference 1.3 mm control-rod travel

RQV..707 - Start 0.14-0.16 kp/cm^2
End 0.24-0.28 kp/cm^2) Difference 0.6 mm control-rod travel

RSV..523 - Start 0.07-0.09 kp/cm^2
End 0.28-0.30 kp/cm^2) Difference 0.8 mm control-rod travel

3.2 At charge-air pressure 0 kp/cm^2, use stop screw of bell crank to reduce control-rod travel with respect to setting (2) by amount of difference.

3.3 With charge-air pressure corresponding to full load, position stop screw in housing such that full-load delivery is reduced with respect to (2) by 0.5 cm^3/100 strokes.

Test Specifications Fuel Injection Pumps ② and Governors

PE 6 A 90 C 412 RS 2253, Z RQ 250/1300 AB745D
RS 2253, Z RQV250-1300 AB786D (1-2)
RS 2253 EP/RSV 250-1100 A4B1025D (3)
RS 2253 EP/RSV 250-1100 A4B1036D (4)

supersedes 6.70
company: Henschel
engine: 562-..
(6R1112-..)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	5,8 - 6,3	0,4			
1000	6	2,5 - 3,4				
	15	13,5 -14,8				
200	9	3,2 - 4,1				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQ .. AB 745 D

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
650	15,7-16,4	650	16,0	1320	14,5-14,8	630	0	200	6,2-8,0	800	15,9-16,0
				1350	10,7-14,0			300	4,5-6,6	1050	14,9-15,1
				1420	0 - 7			400	1,9-4,2		
				1480	0			530	0		

Torque-control travel on flyweight assembly dimension a = 0,35 mm

Speed regulation: At 1 mm less control rod travel

B. Governor Settings

RQV .. AB 786 D

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel ①	
Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Degree of deflection of control lever ③a 7	rev/min 8	Control rod travel mm ③ 9	rev/min 10	mm 11
ca.68	1300	15,0-18,3	-	-	-	ca.12	140	7,9-9,0	1300	0
	1360	10,3-14,6					250	5,0-6,4		
	1440	3,0- 9,3					400	1,7-3,2	1000	0,3-0,5
	1580	0					600	0,5-1,8	600	0,6-0,8
							780	0		

Torque control travel a = 0,7 mm

B. Governor Settings

EP/RSV..

Upper rated speed: Degree of deflection of control lever (1)	rev/min Control rod travel mm (2)	Control rod travel mm rev/min (1a, 2a) (3)	Intermediate rated speed: Degree of deflection of control lever (4)	rev/min	Control rod travel mm	Lower rated speed: Degree of deflection of control lever (3a) (7)	rev/min	Control rod travel mm (3)	Sliding sleeve travel (1): rev/min	mm
ca.72	1100	16,0	without auxiliary spring			ca.29	250	6,0	1100	0
	1150	11,0					100	19 - 21		
	1180	6,4					250	5,7-6,3	800	0,7-0,9
(1025D)	1160	8,0-10,8					400	2,0-4,0		
	1200	3,4-5,4	with auxiliary spring				570	0 - 1	350	1,0-1,2
	1320	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery, Control-rod stop, Test oil temp. 40°C (104°F) (2): rev/min	cm³/1000 strokes	Rotational-speed limitation intermediate speed (2b, 4a): rev/min	Fuel delivery characteristics high idle speed (5a, 5b): rev/min	cm³/1000 strokes	Starting fuel delivery Idle switching point (6): rev/min	cm³/1000 strokes	Torque-control travel (5): rev/min	Control rod travel mm
(1) 562 - 18 (180 PS)								
1300	85,5-87,5	600 (RQ)	700	91,0-94,0	100	17,2-17,8		
		1320 (RQV)	500	81,0-84,0				
(2) 562 - 16 (160 PS) "Z"								
1300	73,0-75,0	600 (RQ)	700	72,5-75,5	100	17,2-17,8		
		1320 (RQV)	500	68,5-71,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

EP/RSV ..

Upper rated speed: Degree of deflection of control lever (1)	rev/min Control rod travel mm (2)	Control rod travel mm rev/min (1a, 2a) (3)	Intermediate rated speed: Degree of deflection of control lever (4)	rev/min	Control rod travel mm	Lower rated speed: Degree of deflection of control lever (3a) (7)	rev/min	Control rod travel mm (3)	Sliding sleeve travel (1): rev/min	mm
ca.72	1100	16,0	without auxiliary spring			ca.29	250	6,0	1080	0
	1150	11,0					100	19 - 21		
	1190	5,5					250	5,7-6,3	850	0,3-0,5
	1170	7,0-10,0					400	2,0-4,0		
	1220	2,2- 4,6	with auxiliary spring				560	0 - 1	500	0,7-0,9
	1320	0 - 1								

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery, Control-rod stop, Test oil temp 40°C (104°F) (2): rev/min	cm³/1000 strokes	Rotational-speed limitation intermediate speed (2b, 4a): rev/min	Fuel delivery characteristics high idle speed (5a, 5b): rev/min	cm³/1000 strokes	Starting fuel delivery Idle switching point (6): rev/min	cm³/1000 strokes	Torque-control travel (5): rev/min	Control rod travel mm
(3) 562 - 12 HAN (120 PS)								
1100	65,0-67,0	1120 (RSV)	700	77,0-80,0	100	17,2-176,8		
			500	69,0-72,0				
(4) 562 - 12 HAN (135 PS)								
1100	73,0-75,0	1120 (RSV)	700	80,0-83,0	100	17,2-17,8		
			500	70,5-73,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 D00 6,2 b

Edition 5.72 En

PE 6 A 85 C 320 RS 2242
(D)

RQ 250/1300 AB 662 R
RQV 250-1300 AB 667 R
RQV 250-.. AB 619 DR
EP/RSV 250-1300 A1 B514 R
250-900 A7 B566 R

supersedes
company: van Doorne
engine DF 615 A

Test with overflow valve and "B" lines PVE 74 S 2 Z

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1 mm (from BDC)

Difference between CRT9 + 21 3 - 4°

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,9-5,5	0,4	9	4,1-4,5	
1000	6	2,0-2,8		6	0,6-1,4	
	12	8,8-9,8			- - - -	
200	9	3,3-3,9		9	1,4-2,2	

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 250/1300 Ab 662

Checking of slider PRG check ① Control rod travel rev/min 1	mm 2	Full-load speed regulation Setting point rev/min 3	Control rod travel mm 4	Test specifications ④ Control rod travel mm 5	rev/min 6	Idle speed regulation Setting point rev/min 7	Control rod travel mm 8	Test specifications ⑤ rev/min 9	Control rod travel mm 10	Torque control ③ rev/min 11	Control rod travel mm 12
550	19,7-20,3	550	20,0	1300	19,6-20,0	480	0	100	9,6-11,5		
Control-lever				1350	13,6-18,2			200	7,2-10,1		
deflection 49°				1400	6,6-14,0			300	2,5- 5,7		
				1440	0 -10,2			380	0		
				1540	0						

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F) rev/min 1	cm³/-1000 strokes 2	Control rod stop ③a rev/min 3	Fuel delivery characteristics ③b rev/min 4	cm³/-1000 strokes 5	Starting fuel delivery Idle speed ⑥ rev/min 6	Control rod travel cm³/1000 strokes mm 7
1300	70,5 - 72,5	1300	1000	max. 67,0		
1300	67,0 - 69,0	1320	Change-over point → RQV..AB667		200 - 120 U/min	
	In accordance with special nameplate on pump!		→ EP/RSV.. u. RQV..619 D			

Checking values in brackets

The numbers denote the sequence of the tests

B. Governor Settings *

(1) Upper rated speed rev/min Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Lower rated speed Control-lever deflection in degrees	rev/min	Control rod travel mm	(3) Torque control rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
RQV 250-1150 AB 619 D										
ca.64	1150	15,0-17,8	-	-	-	ca.12	150	6,6-8,0	1150	0
	1200	10,8-16,0					250	5,4-7,2		
							400	3,1-4,1	900	0,3-0,5
	1250	6,0-11,8					600	1,7-2,8	500	0,5-0,7
	1300	0,8- 8,3					830	0		
(2a)	1410	0								
RQV 250-900 AB 619 D						*				
ca.62	900	15,0-18,0	-	-	-	ca.12	150	6,6-8,0		
	950	10,0-14,3					250	5,4-7,2	900	0
	1000	5,5-10,6					400	2,9-4,0	700	0,3-0,5
	1050	0 - 7					600	0,8-1,9		
	1140	0					710	0	500	0,5-0,7
EP/RSV 250 - 1300 A 1 B 514										
ca.72	1300	16,0				ca.26	250	6,0		
	1340	11,2	**				100	19 - 21	1280	0
	1380	5,7					250	5,7-6,3	400	0
	1360	7,0-10,0					300	3,8-4,8		
	1400	2,2- 5,4	***				440	0 - 1	290	1,2-1,8
	1500	0 - 1								
RQV 250-1300 AB 667										
ca,67	1300	15,0-18,3	-	-	-	ca.12	100	6,3-7,8	-	-
	1350	10,4-15,4					200	5,6-7,0		
	1400	5,0-11,8					350	3,5-5,1		
	1450	0 - 8,0					550	2,2-3,8		
	1550	0					830	0		
EP/RSV 250-900 A7 B 566										
ca.57	900	16,0				ca.24	250	6,0		
	930	11,6	**				100	19 - 21	880	0
	960	6,0					250	5,7-6,3	370	0
	950	5,2-9,6					300	2,4-4,0		
	970	2,2-6,0	***				370	0 - 1	290	1,2-1,8
	1020	0 - 1								

* Torque-control travel on flyweight assembly dimension = 0,6 mm

** without auxiliary spring

*** with auxiliary spring

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Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MAN 4,7a
En Edition 6.67

PES 4 A 80 C 410 RS 2095 RQ 250/1250 AA 380 D
RS 2131 AA 380 D
RS 2131 RQ 250/1250 AB 581 DL* ./.
RS 2131 RQ 250/1250 AB 631 DL** ./.

supersedes 10.66
company: MAN
engine: D 0834 M3 (90PS)
M1* (75PS)
M6**(95PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5+0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,1 - 4,5	0,3			
1000	6	1,2 - 2,0				
	15	10,3 -11,4				
200	9	2,9 - 3,7				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 250/1250 AA 380 D

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,7-16,3	550	16,0	1250	14,5-14,8	540	0	100	6,5-8,1	800	15,8-16,0
				1280	7,8-13,2			200	5,3-7,3	1000	15,4-15,7
				1300	3,8-11,2			300	2,9-5,3		
				1320	0 - 8,6			400	0 -1,9	1200	14,7-15,0
				1380	0			440	0		

Torque-control travel on flyweight assembly dimension a = 0,4 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1250	66,0-68,0	650	800	67,5-70,5		
			650	66,5-69,5		
1250	57,5-59,5	600	600	60,5-63,5	100	11,9-12,9
1250	73,5-75,5	1250	800	70,5-74,5	100	11,9-12,9
					250	6 mm RW

At 1285 - 1300 = 1,5 mm control-rod travel less than full-load position!

Checking values in brackets

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B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1200	18,4-19,0	1200	18,7	1270	18,3-18,7	550	0	100	9,7-11,7	500	20,5-21,0
Control-lever deflection 49°				1300	10,0-16,8			200	7,9-10,7	700	19,5-19,9
				1330	0 -12,0			300	4,8-8,0		
				1400	0			450	0	850	18,6-19,0
Breakaway not before n = 1270											

Torque-control travel on flyweight assembly dimension a = 0,55 mm Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600	19,6-20,4	600	20,0	1270	19,6-20,0	550	0	100	9,7-11,7	-	-
Control-lever deflection 40°				1300	11,5-18,5			200	7,9-10,8		
				1330	0 -13,0			300	4,7- 8,0		
				1400	0			450	0		
Breakaway not before n = 1270											

Torque-control travel on flyweight assembly dimension a = mm Speed regulation At 1 mm less control rod travel

Caution: On account of the differing cam shape on the two pump versions S 2096 and S 2131, use must be made of different pump driving gears which differ in terms of their tooth marks:

MAN uses the toothed gear 51.11301.0045 for the S 2096 pump and 51.11301.0012 for S 2131. When replacing the fuel-injection pump, the driving gear is thus also to be replaced at the same time.

Test Specifications Fuel Injection Pumps ① and Governors

PES 6 A 90 C 320 RS2319 RQV 200-1400 AB775/2R (1)

PES 6 A 90 C 320 RS2320 RQV 200-1400 AB775/2R (2)

Test with overflow valve and "B" lines

supersedes
company: Volvo
engine TD 50 B (1)
D 50 B (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0+0,1 RW9 mm (from BDC)

Difference between CRT9 + 21 1,2+0,1 mm

Testoil-ISO 4113

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,4 - 6,8	0,4			2,5 ± 0,1 (max.2,2-2,9)
	6	0,3 - 0,9				
	9	2,6 - 3,5				
200	9	0,8 - 1,7				

Adjust the fuel delivery from each outlet according to the values in [ ].

* In the case of greater dispersion alter the delivery-valve spring pre-tension accordingly.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.68	1400	15,0-18,0	-	-	-	ca.12	150	6,4-8,0	-	-
	1450	10,8-14,6					250	3,8-6,2		
	1500	7,2-12,2					350	2,2-3,5		
	1600	0 - 6,8					460	0,9-2,2		
	1730	0				(3a)	560	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed: rev/min (4a) 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control (5) travel: rev/min 8	Control rod travel mm 9
900	52,0-54,0	1410	500	41,5-44,5	1530	12,25-17,25 dispersion max.3)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

E20

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7
800	42,0-44,0	1410	500	33,5-36,5	1500	12,25-17,25 dispersion max. 3 (ca. RW 5 mm)

En

Testoil-ISO 4113

E21

E21r

PES 6 A 85 C 321	RS2156	RQ 200/1250	AB568D	(1)
	RS2156Z		AB568D	(2)
PES 6 A 85 C 320	RS2156	RQ 200/1250	AB691D	(3)
PES 6 A 85 C 412	RS2147	RQV200-1250	AB560D	(4)
PES 6 A 85 C 320	RS2337	RQ 200/1250	AB801D	(5)
(D)	RS2337	RQ 250/1250	AB802D	(6)

supersedes 3.69

company: MAN

engine: D 0836 HM4U (1)
D 0836 HM95U (3)
D 0836 HM8U (4)
D 0846 HM42U (2,5)
D 0846 HM1U,91U(6)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,9 - 5,5	0,4	9	4,1 - 4,5	
1000	6	1,3 - 2,1		6	0,6 - 1,4	
	15	12,3 -13,1			- - - -	
200	9	3,9 - 4,4		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 200/1250 AB 568D (1,2)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1200	19,0-19,6	1200	19,3	1270	18,9-19,3	550	0	100	10,0-12,5	500	20,7-21,2
Control-lever deflection 49°				1300	11,0-17,2			200	8,4-11,3		20,1-20,4
				1330	0 -12,2			300	5,2- 6,3		
Breakaway not before n = 1270				1400	0			400	0 - 3,7		19,3-19,6
								450	0		

Torque-control travel on flyweight assembly dimension a = 0,4 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1250	71,5 - 73,5		700	70,5 - 73,5	100	17-18 mm RW
					200	6 mm RW
1250	73,0 - 75,0		700	72,5 - 75,5		
			500	max. 79,0		

Checking values in brackets ± 0,5 cm³

BOSCH Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

B. Governor Settings

Checking of slider PRG check (1)		Full-load speed regulation Setting point		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
RQ 200/1150 AB 691D (3)										Torque control travel a= 0,4 mm	
1200	14,4-15,0	1200	14,7	1270	14,4-14,7	570	0	100	6,9-8,1	500	15,8-16,3
Breakaway not before n = 1270				1300	8,0-13,2			200	5,7-7,8	750	15,1-15,4
				1330	0 -10,8			300	3,5-5,7	1000	14,7-15,0
				1400	0			460	0		
RQ 200/1250 AB 801D (5)										Torque control travel a= 0,4 mm	
550	19,7-20,3	550	20,0	1270	18,0-18,4	510	0	100	9,8-11,6	900	19,8-20,0
(VH ca. 49°)				1300	9,0-16,0			200	7,8-10,5	1200	18,4-18,6
Breakaway not before n = 1270				1330	0 -11,0			300	4,0- 7,3		
				1390	0			410	0		
RQ 250/1250 AB 802D (6)										Torque control travel a= 0,4 mm	
600	15,7-16,3	600	16,0	1270	14,4-14,7	520	0	150	6,4-7,8	900	15,8-16,0
Breakaway not before n = 1270				1300	7,0-12,8			250	4,2-6,0		
				1330	0 -10,0			350	0,6-3,2	1150	14,8-15,1
				1390	0			420	0		

Testoil-ISO 4113

B. Governor Settings

RQV 200-1250 AB560D (4)

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.65	1250	15,0-18,0	-	-	-	ca.10	100	7,0-8,0	1250	0
	1300	10,1-14,2					200	4,9-7,0		
	1350	5,1-10,3					300	3,0-3,8	900	0,4-0,6
	1400	0 - 6,4					450	2,2-2,8		
	1480	0					600	1,1-2,5	500	0,9-1,1
							830	0		

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery on governor control lever Test oil temp. 40°C (104°F) (2)		Control rod stop (3a)		Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
	rev/min	cm^3/-1000 strokes	rev/min		rev/min	cm^3/-1000 strokes	rev/min	Control rod travel cm^3/1000 strokes / mm
	1	2	3		4	5	6	7
(3)	1250	71,5-73,5	700	(RQ)	700	70,5-73,5	100	21 mm RW
							200	6 mm RW
(4)	1250	71,5-73,5	1270	(RQV)	700	70,5-73,5	Intermediate speed as indicated by customer	
(5)	1250	69,5-71,5	500	(RQ)	800	71,0-74,0	100	21 mm RW
					500	max. 69,5	200	6 mm RW
(6)	1250	69,5-71,5	500	(RQ)	800	71,0-74,0	100	18 mm RW
							250	6 mm RW

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 VOL 5,0b
Edition 8.66
En

PES 6 A 85 C 320 RS 2159 RQV 200-1400 AB 573/2R

Testing with "B" leads

supersedes
company Volvo
engine TD 50 A

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	5,6 - 6,0	0,3			2,5 + 0,1 (max. 2,2-2,9)
	6	0,1 - 0,5				
	9	1,4 - 2,1				
200	9	0,8 - 1,5				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
66±1,5	1400	18,0-21,0	-	-	-	10±1,5	100	6,5-8,0		
	1450	14,4-18,4					200	4,5-6,0		
	1500	10,5-15,6					300	3,0-3,8		
	1600	2,0- 9,5					400	2,2-3,4		
	1650	0 - 6					600	0,7-2,0		
	1750	0				(3a)	810	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
900	51,5-53,5	1405-1420	500	43,5-47,5	60	mind.18mmRW	(with starting solenoid)	
			1400	60,0-63,0				
					See page 2!			./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

Pump S 2159 with governor B 573/2R

Low idle setting:
n = 200 = 5.5-11.5 cm^3/1000 strokes (approx. 7 mm control-rod travel)
Scatter max. 1.0 cm^3; in the event of larger scatter, appropriately adjust initial tension of valve spring (Section A, Column 6)

High idle:
n = 1500 = 12.5-17.5 cm^3/1000 strokes (approx. 6.5 mm control-rod travel)
Scatter max. 3.0 cm^3

Testing shutoff device:

With the pump stopped and at n 60 as well as n 1400 it must be possible to shift the control rod with the stop lever from the starting and full-load position to control-rod travel 0 (stop).

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 PEN 5,0 a
Edition 3.67

En

PES 6 A 85 C 320 RS 2160 EP/RSV 250-1000 A2 B330DR
EP/RSV 200-1250 A1 B330 R
EP/RSV 250-1400 A0 B466 R

supersedes
company Volvo-Penta
engine D 50 A
MD 50 A

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port-closing test with/ without ROBO diaphragm

Port closing at prestroke 2,0 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	12	5,6 - 6,0	0,3			2,5 ± 0,1* (max. 2,2-2,9)
	6	0,1 - 0,6				
1000	9	1,8 - 2,5				
200	9	0,9 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

EP/RSV 250-1000 A2 B330 R

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.46	1000	16,0	without auxiliary spring	ca.23	250	6,0		
	1100	9,8			100	19 - 21	980	0
	1180	4,3			250	5,7-6,3	500	0
ca.43	1000	10,5-11,5	with auxiliary spring		350	3,2-4,6	360	1,2-1,8
(2a)	1080	3,8- 6,2			450	0 -2,5		
	1250	0 -1			550	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to ( ) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
980	45,0-47,0	1020	500	39,0-42,0	1055	0,9-1,4 dispersion max. 0,3)		
					100	mind.18mmRW	250	6
1230	39,5-41,5	1270	500	27,0-30,0	1290	0,9-1,4 dispersion max.0,3		
					100	mind.18mmRW	200	6

Checking values in brackets

* 1 mm less control rod travel than col 2

* In the case of greater dispersion alter the delivery-valve spring pre-tension accordingly.

F3

B. Governor Settings

EP/RSV 200-1250 A1 B330 R

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	 5	 6	(4) Lower rated speed Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.73	1250 1300 1350	16,0 11,5 5,4	without auxiliary spring			ca.27	200	6,0	1230	0
ca.72 (2a)	1250 1300 1400	9,8-10,8 3,7- 5,8 0 - 1	with auxiliary spring				100 200 300 410	19 - 21 5,7-6,3 2,1-4,0 0 - 1	360 250	0 1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat. Note: changed to ...) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
1380	46,5-48,5	1420	800 500	41,5-44,5 36,0-39,0	100	min.18mmRW	250	6

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	 5	 6	(4) Lower rated speed Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.73	1400 1500 1600	16,0 11,8 6,6	without auxiliary spring			ca.33	250	6,0	1380	0
ca.70 (2a)	1400 1500 1680	10,1-11,1 4,4- 6,3 0 - 1	with auxiliary spring				150 250 350 450 580	19 - 21 5,7-6,3 3,6-4,7 0,7-3,0 0 - 1	450 320	0 1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat. Note: changed to ...) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
Testing shutoff device: With pump stopped and at starting/full-load speed, it must be possible to move the control rod with the stop lever from start and full-load position to control-rod travel 0 (stop).								

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

VDT-WPP 001/4 KHD 11,7 a
2. Edition

En

PE 8 A 85 C 320 RS 2179,Z* RQ 200/1150 AB 589 DR
2204 RQV 200-1150 AB 608 DR ./.
Cam sequence and angular cam spacing.
1 - 8 - 4 - 5 - 7 - 3 - 6 - 2 je 45°

supersedes 11.68
company: KHD
engine F 8 L 814
(210 PS)
(190 PS) ./.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5+0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,3		0,6	
	6	1,3 - 2,1				
	15	12,3 -13,1				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQ..AB 589 DR

Checking of slider PRG check (1)		Full-load speed regulation Setting point		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,7-16,3	550	16,0	1170	14,1-14,4	500	0	100	6,0-8,1	680	15,7-16,0
				1200	7,0-13,0			200	4,6-6,8	1050	14,5-14,8
Breakaway not before n = 1170				1230	0 - 8,6			300	1,8-4,2		
				1280	0			400	0		

Torque-control travel on flyweight assembly dimension a = 0,5 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever (2) Test oil temp. 40°C (104°F)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1130	78,5 - 80,5	700	1000	80,5 - 83,5	100	ca. 17mmRW
			700	81,5 - 84,5		
1140	78,5 - 80,5	1160 - 1170	1000	80,5 - 83,5	100	ca. 17mmRW
			700	81,5 - 84,5		
dispersion 3 cm³/1000 H. (When checking 6 cm³/1000 strokes)						

Checking values in brackets

F5

The numbers denote the sequence of the tests

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
66±1,5	1150	15,0-18,0	-	-	-	10±1,5	100	7,0-7,6	1140	0
	1180	11,8-15,5					200	4,3-6,6	900	0,4-0,6
	1260	3,6- 9,2					300	2,6-3,6	700	0,9-1,1
	1300	0 - 6					500	1,2-2,6	400	1,1-1,3
(2a)	1370	0					730	0		

Dimension a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat. Note: changed to ...)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
190PS 1150	67,5 - 70,5	700	1000	72,5 - 75,5				
			600	75,5 - 79,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

1.73

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
(2a)										

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat. Note: changed to ...)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

F6

En

PE 8 A 85 C 320 RS2179Y	RQ 200/1150 AB589DR	(1)	supersedes 10.69
	RQV 200-1150 AB678DR	(1)	company. KHD
PE 8 A 85 C 320 RS2179W	RQ 200/1150 AB589DR	(2)	engine F8L914
	RQ 200/1150 AB738DR	(2)	(230PS-1,2)
	RQV 200-1150 AB678DR	(2)	(210PS- 3)
	RQV 200/640-1150 AB807DR	(2)	
PE 8 A 85 C 320 RS2179X	RQ 200/1150 AB738DR	(3)	

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

RQV 200-1150 AB678DR (3)

1-8-4-5-7-3-6-2 = 0-45-90-135-180-225-270-315°

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,9 - 5,5	0,3			
1000	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

RS2179Y mit RQ..AB589DR (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,6-16,4	550	16,0	1170	14,2-14,4	500	0	100	6,0-8,1	700	15,8-16,0
				1200	7,0-13,0			200	4,6-6,8		
Breakaway not				1240	0 - 7			300	1,8-4,2	900	15,1-15,4
before n = 1170				1280	0			400	0	1050	14,5-14,8

Torque-control travel on flyweight assembly dimension a = 0,5 mm

Speed regulation: At 1 mm less control rod travel

RS2179W mit RQ..AB589DR (2)
RS2179X mit RQ..AB738DR (3)

550	15,6-16,4	550	16,0	1170	14,6-14,9	500	0	100	6,0-8,0	700	15,8-16,0
				1200	7,0-13,0			200	4,6-6,7		
				1230	0 - 8,6			300	1,7-4,2	850	15,3-15,6
				1280	0			400	0	1000	14,9-15,1

Dimension a = 0,35 mm

./.

F7

B. Governor Settings

RQV..

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rodtravel mm	Control rod travel mm rev/min (2a)	(1a)	Degree of deflection of control lever	rev/min	Control rod travel mm	(4)	Degree of deflection of control lever	rev/min	Control rod travel mm	(3)	rev/min (1)	mm
1	2	3		4	5	6		7	8	9		10	11
200-1150 AB678DR / RS2179Y (1), 2179W (2), 2179X (3)													
ca.66	1150	15,0-18,0		-	-	-		ca.10	100	7,0-7,6		1150	0
	1180	11,8-15,5							200	4,3-6,6			
	1260	3,6-9,2							300	2,6-3,6		800	0,5-0,7
	1300	0 - 6							500	1,2-2,6			
	1370	0						(3a)	730	0		500	0,7-0,9

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)		Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
	rev/min	cm^3/1000 strokes	rev/min		rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
	1	2	3		4	5	6	7	8	9
(1)	1150	94,5-96,5	700	(RQ)	1000	96,0-99,0	100	ca.15 mmRW(RQV)		
			1170	(RQV)	700	93,0-97,0				
(2)	1150	93,5-95,5	500	(RQ)	880	94,5-98,5	100	ca.15 mmRW(RQV)		
			1170	(RQV)	500	93,5-96,5				
(3)	1150	81,5-83,5	500	(RQ)	800	85,0-88,0	100	ca.14 mmRW(RQV)		
			1170	(RQV)	500	78,5-81,5				

Checking values in brackets

* 1 mm less control rod travel

Testoil-ISO 4113

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (2a)	(1a)	Degree of deflection of control lever	rev/min	Control rod travel mm	(4)	Degree of deflection of control lever	rev/min	Control rod travel mm	(3)	rev/min (1)	mm
1	2	3		4	5	6		7	8	9		10	11
200/640-1150 AB807DR / 2179W (2)													
ca.68	1150	15,0-18,0		ca.48	550	11,5-12,5		ca.12	100	6,4-8,0		1150	0
	1200	10,4-14,6			650	4,0- 9,4			200	5,2-7,4			
	1300	0 - 7,4			690	0			400	3,6-4,0		1000	0,3-0,5
	1390	0							600	3,6-4,0			
								(3a)	800	0		750	0,7-0,9

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)		Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min		rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3		4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 MAN 12,9a
Edition 3.69
En

PE 8 A 85 C 412 LS 2181 EP/RSV 200-750 A 7 B 470 L
PE 8 A 95 C 412 LS 2183* B 508 L
(C 410) 325-750 A 7 B 508 L ./.

supersedes
company MAN
engine D 2148 M MT*

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,8 + 0,1 mm (from BDC) 9,5 Ø - 2,0+0,1

Rotational speed rev/min 1	Control rod travel mm 2 (2)	Fuel delivery 8,5Ø cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery 9,5Ø cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4	9	8,4 - 9,0	
	6	1,3 - 2,1		6	4,0 - 5,0	
	15	12,3 - 13,1		15	16,3 - 17,8	
200	9	3,9 - 4,4		6	1,4 - 2,6	

Adjust the fuel delivery from each outlet according to the values in ▭

Testoil-ISO 4113

B. Governor Settings

200 - 750

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.52	770	16,0		ca.24	200	6,0	750	0
	800	12,4	without auxiliary spring		100	19 - 21		
	850	4,4			200	5,7 -6,3	400	0
	810	9,6-12,0			300	1,8 -3,7	270	1,2-1,8
(2a)	850	3,4- 6,4	with auxiliary spring		400	0 - 1		
	920	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
750	87,5 - 89,5	770					325	6,0
750	123,0-126,0							

Checking values in brackets

* 1 mm less control rod travel than col. 2

The numbers denote the sequence of the tests

B. Governor Settings 325 - 750

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.49	750	16,0	without auxiliary spring			ca.26	325	6,0	730	0
	800	8,9					100	19 - 21	500	0
	825	4,6					325	5,7-6,3		
	780	11,0-12,6	with auxiliary spring				375	3,2-4,4	375	1,2 - 1,8
(2a)	820	3,7- 7,3					460	0 - 1		
	920	0 - 1								

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat. Note: changed to ...)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- diminution difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)

Notes:

(1) when n = rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

F10

F 10

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 D00 6,2 a
Edition 6.69

En

PE 6 A 90 C 320 RS 2187, S 2217 RQ 200/1300 AB 607 DR
RS 2217 RQV250-1300 AB 619 DR
RS 2187 RQ 200/1300 AB 595 R

supersedes 9.67
company: van Doorne
engine: DF 615

Check with "B" lines (6 x 1.5 x 600)
and suction-chamber flushing (PVE 74 S 2 Z)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing difference between control-rod travel 9 and 21 = 0,6+0,1mm (→ S 2217)

Port closing at prestroke 2,4 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4			
	6	2,5 - 3,4				
	12	10,0 -11,1				
200	9	3,2 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

RQ 200/1300 AB 607 DR

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1200	18,5-19,1	1200	18,8	1300	18,4-18,8	460	0	100	8,4-11,0	400	20,0-20,3
				1350	12,8-17,3			200	5,6- 8,6	700	19,8-20,0
Control-lever deflection 49°				1400	6,4-13,4			300	0,7- 3,8		
				1450	0 - 9,0			360	0	1000	18,8-19,0
				1540	0						

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1280	68,0-70,0	see col. 6-7	1000	62,0-65,0	100	21 mm RW
			500	58,5-62,5	(→ S 2217)	
1280	68,0-70,0	see col. 6-7	1000	61,5-64,5	100	21 mm RW
			500	56,0-60,0		
1280	57,0-59,0	1280				

Checking values in brackets

B. Governor Settings

RQV 250-1300AB 619DR DOO 6,2 a

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1300	15,0-18,3	-	-	-	ca.12	150	6,3-8,0	1280	0
	1350	10,0-14,6					250	5,1-7,3	1000	0,3-0,5
	1400	4,8-10,8					400	3,0-4,3	800	0,4-0,6
	1450	0 - 6,6					600	1,6-3,0	500	0,6-0,7
	1520	0					880	0		

Torque control travel a = 0,6 mm

B. Governor Settings

(2)

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
PRG check (1)		Setting point		Test specifications (4)		Setting point		Test specifications (5)		(3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
450	19,6-20,4	450	20	1300	19,6-20,0	400	0	100	9,0-11,7	-	-
Control-lever ca. 49°				1330	9,5-18,0			200	5,0- 8,0		
				1360	0 -12,0			250	1,0- 5,0		
				1410	0			300	0		

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation At 1 mm less control rod travel

supersedes 11.66
company KHD
engine F 10 L 814 (235 PS) *(250 PS) ./.

PE 10 A 85 C 520/4 RS 2189 RQ 200/1150 AB 596 DR
RQV 200-1150 Ab 608 DR ./.
RS 2189 Z* ./.

1 - 10 - 5 - 7 - 2 - 8 - 3 - 9 - 4 - 6 - 1
0 -27 -72 -99 -144-171-216-243-288-315-360°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,3		0,6	
	6 15	1,3 - 21, 12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQ 200/1150 AB 596 DR

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
500	15,7-16,3 Breakaway not before n = 1170	500	16	1170 1200 1230 1280	14,1-14,4 6,0-12,5 0 - 8 0	500	0	100 200 300 400	6,0-8,0 4,6-6,8 2,0-4,2 0	700 900 1000	15,8-16,0 14,9-15,2 14,2-14,4

Torque-control travel on flyweight assembly dimension a = 0,55 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1150	72,0 - 74.0	700	1000 700	72,0 - 75,0 76,0 - 79,0		

Checking values in brackets

B. Governor Settings

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm (1a) rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.66	1150 1200 1240 1300 1370	15,0-18,0 9,6-14,0 5,5-10,6 0 - 6 0	-	-	-	ca.10 (3a)	100 200 300 500 730	7,0-7,6 4,3-6,6 2,6-3,4 1,2-2,6 0	1150 900 700 400	0 0,4-0,6 0,9-1,1 1,1-1,3

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1150	76,5 - 78,5	700	1000 700	76,5 - 79,5 80,5 - 84,5	100	ca. 16 mmRW		
1150	72,0 - 74,0	1160-1170	1000 700	72,0 - 75,0 76,0 - 79,0	100	ca. 16mmRW		

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- diminution difference
	Gauge pressure = bar	Gauge pressure = bar	mm

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

PES 6 A 85 C 412 RS 2144

RQ 250/1250 AB 580 L
RQ 250/1200 ABV 8493*
RQ 250/1150 ABV 8494**

supersedes
company MAN
engine: D 0836 HM 7 U
160 PS
155 PS*
145 PS**

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	4,9 - 5,5	0,4			
1000	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

RQ 250/1250 AB 580 L (V 8269)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
600	15,7-16,3	600	16,0	1250	15,8-16,0	560	0	80	6,8-8,1		
				1270	15,6-16,0			150	6,2-8,1		
				1300	10,0-14,6			250	4,5-6,6		
				1380	0 - 5			350	1,9-4,2		
				1420	0			460	0		

Torque-control travel on flyweight assembly dimension a = mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1250	77,5 - 79,5	1250			100	21 mm RW
					250	6 mm RW

Checking values in brackets

B. Governor Settings

RQ 250/1200 ABV 8493*

Checking of slider PRG check ①		Full load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600	15,7-16,3	600	16,0	1220	15,6-16,0	560	0	100	6,9-8,1		
Breakaway not before 1220				1250	7,0-15,0			250	3,7-6,8		
				1300	0 - 8,4			350	1,8-4,3		
				1360	0			460	0		

Torque-control travel on flyweight assembly dimension a ____ mm Speed regulation At ____ 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Testoil-ISO 4113

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1200	78,0 - 80,0	1200			100	ca. 20 mmRW

Checking values in brackets

RQ 250/1150 ABV 8494 **

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
550	15,7-16,3	550	16,0	1170	15,6-16,0	560	0	100	6,4-8,1	-	-
				1200	10,0-14,8			250	4,4-6,6		
Breakaway not before 1170				1250	0 - 8,5			350	1,8-4,1		
				1310	0			460	0		

Torque-control travel on flyweight assembly dimension a ____ mm Speed regulation At ____ 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1150	74,5 - 76,5	1150			100	ca. 20 mm RW

En Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 MAN 7,2 g
1. Edition
En

PES 6 A 85 C 410 RS 2139 RQV 250/400-1250 AB 692 DL (1)
RS 2139 EP/RSV 250-1250 A1B1072DL (2)
D
RS 2371 EP/RSV 250-1250 A1B 693 DL (3)

supersedes
company MAN
engine. D 0836 HMN7 (1)
D 0846 HMN80 (2)
D 0846 HM81H (3)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery "C" cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery "D" cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4	9	4,1 - 4,5	
	6	1,3 - 2,1		6	0,6 - 1,4	
	15	12,4 -13,1				
200	9	3,9 - 4,4		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

RQV .. 692 DL (1)

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.66	1250	15,0-18,0	ca.30	390	7,4-11,0	ca.10	200	6,0-8,0	250	0,5-1,5
	1380	0 - 7,6		500	3,6- 4,3		300	3,5-5,8	480	4,9-5,1
ca.51	960	15,0-17,0		960	3,6- 4,3		390	0 -2,4	960	4,9-5,1
	1080	8,4-12,0		1080	0 - 2,0		440	0	1250	8,3
	1210	0 - 5,5		1150	0				1250	0
	1310	0				(3a)			900	0,9-1,1

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control (5) travel: rev/min 8	Control rod travel mm 9
1250	71,5 -73,5	1260-1270			250	6 mm RW		400

Checking values in brackets

* 1 mm less control rod travel than col. 2

The numbers denote the sequence of the tests

B. Governor Settings

① Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			④ Control-lever deflection in degrees	Lower rated speed rev/min	Lower rated speed Control rod travel mm	③ Torque control rev/min	Torque control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.71	1250	16,0	without auxil.ary spring			ca.27	250	7,5	1230	0
	1315	10,0					100	19,0-21,0	1000	0,4-0,6
	1330	6,5					250	7,2-7,8		
	1310	11,4-12,0					400	3,2-5,1	800	0,5-0,7
	1400	1,3- 4,7	with auxiliary spring				600	0 -1,0		
②a	1530	0,3- 1,0								

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

②b Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	⑥ Rotational-speed limitat. Note: changed to ...) rev/min	③a Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle ⑤: rev/min	cm³/1000 strokes	④a Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1250	69,5 - 71,5	1290-1305*	800	71,0-74,0	100	mind. 18		
			500	max. 69,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

EP/RSV..693 DL (3)

① Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			④ Control-lever deflection in degrees	Lower rated speed rev/min	Lower rated speed Control rod travel mm	③ Torque control rev/min	Torque control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.71	1250	16,0	without auxiliary spring			ca.27	250	7,5		
	1315	10,0					100	19,0-21,0	1230	0
	1330	6,5					250	7,2- 7,8	1000	0,4-0,6
	1310	11,4-12,0					400	3,2- 5,1	800	0,5-0,7
	1400	1,3- 4,7	with auxiliary spring				600	0 - 1,0		
②a	1530	0,3- 1,0								

C. Settings for Fuel Injection Pump with Fitted Governor

②b Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	⑥ Rotational-speed limitat. Note: changed to ...) rev/min	③a Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle ⑤: rev/min	cm³/1000 strokes	④a Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1250	69,5-71,5	1290-1305*	900	71,0-74,0	100	17,7-18,3	250	7,5
			500	max. 69,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MAN 9,7 f

Edition 11.68

En

PES 6 A 85 C 412 RS 2129 RQ 200/1100 AA 486 D
RS 2046 Z RQ 200/1100 AA 486 D
RS 2046 RQ 200/1100 AA 437 D
PES 6 A 85 B 412 RS 461 RQ 200/1100 A 357 D
MAN-Nr. 323

supersedes
company MAN
engine D 2146 M 11 - 180PS
D 2146 M 1 - 172PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4			
	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

AA 486D, .. A 357 D

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1050	14,6-15,4	1050	15,0	1100	14,8-15,0	400	0	100	6,7-8,1	350	15,8-16,4
				1120	9,0-14,4			200	3,2-5,6	500	15,4-15,7
				1140	3,0-11,4			250	0,8-3,3		
				1160	0 - 8			300	0	700	15,0-15,2
				1200	0						

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1000 strokes / Control rod travel mm 7
1080	96,5 - 99,5	700	700	90,5 - 94,5	200	6,0 mm RW
			1100	96,0 -100,0	100	ca. 21 mm RW

Checking values in brackets

./.

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B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1050	14,3-15,1	1050	14,7	1100	14,5-14,7	400	0	100	6,6-8,1	400	15,6-16,0
				1120	9,0-14,0			200	3,4-5,8	600	15,1-15,4
				1140	2,5-11,0			250	0,8-3,4		
				1180	0 - 4			300	0	800	14,7-14,9
				1210	0						

Torque-control travel on flyweight assembly dimension a = 0,4 mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1080	89,5 - 91,5	600	600	90,5 - 93,5	200	6 mm RW

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

Torque-control travel on flyweight assembly dimension a = mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7

Checking values in brackets

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MB 8,0 a
Edition 8.69
En

PE 6 A 90 C 410 RS 2124, Z RQ 300/1325 AB 577 DL
RQ 300/1325 AB 405 DL ./.

supersedes DAI 8,0a (7.66)
company Daimler-Benz
engine OM 327

Start-of-delivery mark on bearing end plate and multi-plate clutch!
Check pump with flushing.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1.	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,4 - 6,9	0,4			
	6	2,8 - 3,8				
	15	13,8 -15,3				
200	9	3,7 - 4,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 300/1325 AB 577 DL

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1250	14,6-15,4	1250	15	1325	14,8-15,0	560	0	200	6,9-8,1	500	15,8-16,4
				1380	8,6-13,0			300	4,5-6,5		
				1420	3,0-10,0			400	0,5-3,0	700	15,4-15,8
				1460	0 - 6,8			460	0	900	15,0-15,3
				1540	0						

Torque-control travel on flyweight assembly dimension a = 0,3 mm ± 0,03 Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed only for 577 DL	Full-load delivery ⑥ for "Z" Control rod travel
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1000 strokes mm 7
1300	68,5 - 70,5	450	1000	64,0 - 67,0	1300	76,0 - 78,0
			700	61,0 - 65,0	1000	72,0 - 75,0
			500	57,5 - 60,5	800	70,0 - 74,0
					500	66,0 - 70,0
At n 1350 governor must have subtracted 0.2-1.2 mm control-rod travel from full load!						

Checking values in brackets

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1300	14,0-14,8	1300	14,4	1325	14,2-14,4	560	0	200	6,8-8,1	500	15,7-16,3
				1350	12,6-14,4			300	4,4-6,6	600	15,4-15,8
				1380	7,5-12,5			400	0,5-3,2	800	14,8-15,2
				1420	0,6-9,6			460	0	950	14,4-14,6
				1530	0						

Torque-control travel on flyweight assembly dimension a = 0,5 mm ± 0,03 Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1300	71,0 - 73,0	500	1000	67,5 - 70,5		
			700	70,0 - 73,0		
			500	65,5 - 69,5		

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

Torque-control travel on flyweight assembly dimension a = mm Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7

En Checking values in brackets

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F22

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 MB 8,0 c
Edition 3.69

En

PE 6 A 90 C 410	RS 2124	RQ 300/1325 AB658DL	(1)
	RS 2124	RQ 300/1175 AB658DL	(2)
	RS 2124	RQ 300/1275 AB658DL	(3)
	RS 2124 Z	RQ 300/1325 AB658DL	(4)

supersedes 1.68
company DAI 8,0 c
engine Daimler-Benz OM 327
0 302 ;LP ..17(1)
LP...16 (2)
0 302 (Special version) (3)
0 302 (Special version) (4)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	6	2,9 - 3,8	0,4			
	9	6,4 - 6,9		With the exception of this page, ..AB 658 DL with full load governor (Section B-C - reverse side) on DAI 8.0 b (9.67) is invalid. Item 1 of this edition applies instead.		
	15	13,8 -15,3				
200	6	0,2 - 1,0				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

(1,4) 300/1325

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
600	15,7-16,3	600	16,0	1325	14,3-14,7	560	0	200	6,7-8,1	700	15,8-16,0
				1370	10,4-14,0			300	4,3-6,7	900	15,1-15,4
				1400	6,4-11,8			400	0,6-3,2		
				1450	0 - 7,8			460	0	1025	14,7-14,9
				1530	0						

Torque-control travel on flyweight assembly dimension a = 0,4 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1300	75,5 - 77,5	450	900	73,5 - 76,5	100	ca. 16 mm RW
	75,0 - 78,0			73,0 - 77,0		
			700	75,5 - 78,5		
				75,0 - 79,0		
			500	68,5 - 71,5		
				68,0 - 72,0		
At n = 1350 governor must break away by 0.5 - 1.5 mm from full load!						

Checking values in brackets

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B. Governor Settings

(2)

Checking of slider PRG check ①		Full-load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
300/1150	14,4-15	1150	14,7	1180	14,3-14,7	560	0	200	6,7-8,1	1200	
				1220	10,0-13,6			300	4,5-6,6	500	16,0-16,3
				1250	6,0-11,2			400	0,4-3,0	750	15,8-16,0
				1300	0 - 7,2			460	0	1050	14,8-15,1
				1380	0						

Governor must regulate 0.5-1.0 mm from full load at n =

Torque-control travel on flyweight assembly dimension a mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Testoil-ISO 4113

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1150	75,0 - 77,0	450	900	74,5 - 77,5	100	ca. 16 mm RW
			700	76,5 - 79,5		
			500	69,0 - 72,0		
1250	67,5 - 69,5	450	900	64,0 - 67,0	100	ca. 16 mm RW
			700	65,5 - 68,5		
			500	60,0 - 63,0		

Checking values in brackets

B. Governor Settings

(3)

Checking of slider PRG check ①		Full load speed regulation				Idle speed regulation				Torque control ③	
		Setting point		Test specifications ④		Setting point		Test specifications ⑤			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
300/600	15,7-16,3	600	16,0	1290	14,3-14,7	560	0	200	6,6-8,1	750	15,8-16,0
				1320	9,5-13,4			300	4,1-6,3	900	15,4-15,6
				1350	3,4-10,5			400	0,5-2,8		
				1380	0 - 7,4			460	0	1100	14,8-15,0
				1440	0						

Governor must regulate 0.5-1.0 mm from full load at n = 1300!

Torque-control travel on flyweight assembly dimension a mm — Speed regulation At — 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1300	69,0 - 71,0	450	900	64,5 - 67,0	100	ca. 16 mm
			700	65,5 - 68,5		
			500	60,0 - 63,0		
	(augmenter de ± 0,5 cm^3!)					

Checking values in brackets

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 10,0b
Edition 10.69

En

PE 8 A 85 C 410 LS 2212 RQ 250/1400 AB 575 DL (1)
RQV250-1300 AB 612 DL (2)

supersedes 6.68
company KHD
engine F 8 L 312 (200 PS - 1) (180 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Testoil-ISO 4113

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4			
	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 250/1400 AB 575 DL

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1300	13,7-14,3	1300	14,0	1400	13,6-14,0	520	0	150	6,2-8,1	700	15,8-16,0
				1440	4,0-12,0			250	4,2-6,5	900	15,0-15,4
Breakaway not before n = 1410				1460	0 - 9,4			350	0,8-3,2	1100	14,0-14,3
				1520	0			420	0		

Torque-control travel on flyweight assembly dimension a = 0,65 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1400	69,5 - 71,5	500	1100	65,5-68,5	100	ca.18 mm RW
			800	72,0-75,0		
			500	65,5-68,5		

./.

Checking values in brackets

G1

B. Governor Settings

Upper rated speed				Intermediate rated speed			Lower rated speed			Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min (1)	mm
1	2	3		4	5	6	7	8	9	10	11
ca.66	1300 1350 1400 1450 1530	15,0-18,3 10,0-14,8 4,6-10,8 0 - 6,7 0		-	-	-	ca.10 (3a)	100 250 400 600 840	6,5-8,0 5,1-7,3 3,0-4,3 1,6-3,1 0	1300 1100 900 550	0 0,4-0,6 0,7-0,9 1,1-1,3

Torque control travel a = 1,2 mm

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1300	61,5-63,5	1320	1100 800 500	59,0 - 62,0 63,0 - 67,0 57,5 - 61,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated speed				Intermediate rated speed			Lower rated speed			Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min (1)	mm
1	2	3		4	5	6	7	8	9	10	11
							(3a)				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation (2b) intermediate speed (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors (1A)

VDT-WPP 001/4 HAN 1,4 g
Edition 10.64

En

PES 2 A 65 B 310 RS 1038 EP/RSV 300-1200 A2 A155 D

supersedes 13.4.62
company Hanomag
engine D 14 CR 224

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque control valve) mm 6
1000	12	5,7 - 6,2	0,3			
	6	1,4 - 2,1				
	18	9,7 -10,6				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ▭

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	4	5	6	Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min 10	Control rod travel mm 11
ca.53	1200	12	without auxiliary spring			ca.26	300	6	1180	0
	1250	9					100	19 - 21	1000	0,4-0,6
	1300	5,7					300	5,7-6,3	700	0,9-1,1
	1250	8 - 9,5	with auxiliary spring				450	3,2-4,6	400	0,9-1,1
	1350	2,8- 4,4					600	0 - 2,6		
(2a)	1500	0 - 1					720	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F)		(6) Rotational-speed limitat Note changed to)	(3a) Fuel delivery characteristics		Starting fuel delivery Idle (5)		(4a) Idle stop	
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
1180	44,5-46,5	1210-1230	800	45,0 - 48,0				
			500	44,5 - 47,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

G3

Test Specifications Fuel Injection Pumps and Governors

(1A)

VDT-WPP 001/4 HAN 2,8 a7
(2,8a8)
Edition 10.64

En

PE 4 A 65 B 310 LS 1040 EP/RSV 250-1150 A1 A 157 D
250-1100 A1 B 157 D*

supersedes 10.62
company Hanomag
engine D 28 CR 448

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches or Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	5,7 - 6,2	0,3			
	6	1,4 - 2,1				
	18	9,7 -10,6				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.68	1150	12	without auxiliary spring	ca.31	250	7,5	1130	0
	1180	9					1000	0,7-0,9
	1210	6,2			100	19 - 21	800	1,4-1,6
	1180	8,5-10			250	7,2-7,8	350	1,4-1,6
	1220	5 - 6,5	with auxiliary spring		400	4 - 6		
(2a)	1300	0 - 3			500	0 - 4		
	1350	0 - 1			650	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to): rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
1130	41,5 - 43,5	1160-1180	800	48,0-51,0				
			500	46,0-49,0				
1080	38,2 - 40,2	1110-1130	700	40,0-43,0				
			400	40,5-43,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

G4

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 KHD 12,6 g
Edition 3.67

En

PE 8 A 75 C 320 RS 1022, Z RQV 200-1150 AA 461 D
RS 1022,1170 EP/RSV 300-1150 A5 B56DR*
RS 1170 EP/RSV 300-750 A 7 B430DR**

supersedes 2.64
company K H D
engine F 8 L 714 *
A 8 L 714 **

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	3,8 - 4,2				
1000	12	6,7 - 7,6				
	15	9,4 - 10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQV 200-1150 AA461 D

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.66	1150	15,0-18,0				ca.10	100	7,0-7,6	1150	0
	1200	9,6-14,0					200	4,3-6,6	900	0,4-0,6
	1240	5,5-10,6					300	2,6-3,4	700	0,9-1,1
	1320	0 - 4,4					500	1,2-2,6	400	1,1-1,3
	1370	0					730	0		
						(3a)				

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics high idle speed (5a) (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1150	83,0-85,0	1160-1180	1000	83,0-86,0				
			800	79,5-82,5				
			600	85,0-88,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

G5

The numbers denote the sequence of the tests

B. Governor Settings

EP/RSV 300-1150 A4 B56 DR*

(1) Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Lower rated speed: Control-lever deflection in degrees	rev/min	Control rod travel mm	(3) Torque control: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.73	1150	16,0				ca.28	300	6,0	1130	0
	1180	11,8	without auxiliary spring				100	19 - 21	700	0,5-0,7
	1220	6,0					300	5,7-6,3	600	0,9-1,1
	1200	7,5 -10,5					450	1,0-3,5		
	1260	1,5 - 3,8	with auxiliary spring				600	0 - 1	400	1,2-1,4
(2a)	1350	0 - 1								

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ... rev/min	(3a) Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle (5): rev/min	cm³/1000 strokes	(4a) Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1150	78,0 - 80,0	1160-1180	1000	83,5 - 86,5				
			600	84,0 - 87,0				
1130	65,0 - 67,0	1160	800	62,5 - 65,5				
			500	73,0 - 76,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

EP/RSV 300 - 750 A7 B430 DR**

(1) Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Lower rated speed: Control-lever deflection in degrees	rev/min	Control rod travel mm	(3) Torque control: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.48	750	16,0				ca.24	300	6,0	730	0
	780	11,5	without auxiliary spring				120	19 - 21	650	0,3 - 0,5
	810	6,2					300	5,7-6,3		
	780	10,4-12,4					400	2,8-4,3	500	0,8 - 1,0
	850	2,0- 3,8	with auxiliary spring				550	0 - 1	350	0,8 - 1,0
(2a)	930	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ... rev/min	(3a) Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle (5): rev/min	cm³/1000 strokes	(4a) Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
730	68,0 - 70,0	760	500	74,0 - 77,0			300	6,0
			400	70,5 - 73,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors (1A)

VDT-WPP 001/4 HAN 2,8 b 3
Edition 12.66
En

PE 4 A 65 C 310 LS 1040, Z EP/RSV 250-1000 A2B 169D
LS 1040, Z EP/RSV 250-1200 A2D 169D

supersedes
company Hanomag
engine D 28

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,3 + 0,1 mm (from BDC) (S 1040)
2,1 + 0,1 (S 1040,Z)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	5,7 - 6,2	0,3			
	6	1,4 - 2,1				
	18	9,7 -10,6				
200	6	0,5 - 1,6				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

250 - 1000

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.44	1000	16,0	without auxiliary spring	ca.21	250	6	980	0
	1060	12,3			150	19 - 21	900	0,1-0,3
	1120	7,3			250	5,7-6,3	800	0,3-0,5
	1100	7,5-10,2			350	4,5-5,3	700	0,4-0,6
(2a)	1200	2,5- 4,5	with auxiliary spring		500	0,9-3,5	350	0,4-0,6
	1350	0,3- 1,0			700	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat: Note changed to rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
980	38,5 - 40,5	1010 - 1020						

Checking values in brackets

* 1 mm less control rod travel than col 2

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The numbers denote the sequence of the tests

B. Governor Settings

250 - 1200

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed rev/min (8)	Control rod travel mm (9)	(3) Torque control rev/min (10)	Control rod travel mm (11)
ca.50	1200	16,0	without auxiliary spring	ca.21	250	6	1180	0
	1260	12,2					900	0,2-0,4
	1340	5,9			100	19 - 21	700	0,4-0,6
	1300	7,4-10,2			250	5,7-6,3	350	0,4-0,6
(2a)	1400	2,0- 4,6	with auxiliary spring		450	2,2-4,0		
	1550	0,3- 1,0			700	0 - 1		

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ... rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle: rev/min (6)	cm³/1000 strokes (7)	(5)	(4a) Idle stop: rev/min (8)	Control rod travel mm (9)
1180	51,0-53,0	1210-1220	800	52,5-55,5					
			500	50,5-53,5					

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed rev/min (8)	Control rod travel mm (9)	(3) Torque control rev/min (10)	Control rod travel mm (11)
(2a)								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ... rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle: rev/min (6)	cm³/1000 strokes (7)	(5)	(4a) Idle stop: rev/min (8)	Control rod travel mm (9)

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 8,0 m 1
Edition 9.64
En

PE 6 A 75 C 320 RS 1035 y RQ 250/1150 AA 143 D
RS 1035 z* 250/1050 AA 143 D **

supersedes 5.64
company KHD
engine F 6 L 614 D
F 6 L 614
(118PS**)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,2 - 6,6	0,3			
	9	3,0 - 3,7				
	15	8,5 - 9,5				
200	9	1,9 - 2,8				

Adjust the fuel delivery from each outlet according to the values in [ ].

Testoil-ISO 4113

B. Governor Settings

RQ 250/1150 AA 143 D

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
500	15,6-16,4	500	16	1150	13,9-14,1			200	6,4-8,1	600	15,8-16
				1180	3,8-12			250	3,8-6,8	700	15,5-15,8
				1200	0 - 8,6			300	0 -3,4	900	14,9-15,3
				1250	0			330	0	1000	14,5-14,8

Torque-control travel on flyweight assembly dimension a = 0,6 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes/ mm 7
1130	62,0 - 64,0	600	1000	65,0 - 68,0		
			600	68,5 - 71,5		
1130	71,0 - 73,0	600	1000	73,5 - 76,5		
			600	76,5 - 79,5		

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Checking values in brackets

BOSCH Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

G9

B Governor Settings

RQ 250/1050 AA 143 D** KHD 8,0 m 1

Checking of slider PRG check ①		Full load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
500	15,7-16,3	500	16,0	1050 1070 1090 1130	14,2-14,6 8 - 13 0 - 9 0	440	0	200 250 300 340	7,4-8,1 5 -7,6 1 - 4 0	600 800 1000	15,9-16 15,3-15,5 14,5-14,8

Torque-control travel on flyweight assembly dimension a 0,6 mm

Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp 40 C (104 F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/- 1000 strokes	rev/min	rev/min	cm^3/ 1000 strokes	rev/min	cm^3 1000 strokes / mm Control rod travel
1	2	3	4	5	6	7
1030	74,7 - 76,7	500	900 700 500	79,0 - 82,0 78,5 - 81,5 80,5 - 83,5		

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure - in bar gauge pressure

Pump/governor	Setting Gauge pressure bar	Measurement Gauge pressure bar	Control rod travel: diminution / difference mm (1)

Notes

(1) when n rev/min and gauge pressure bar (maximum full-load control rod travel)

En

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 7,4 d
Edition 3.69
En

PE 6 A 75 C 320 RS 1035 RQ 250/1250 AA 312 D
PE 6 A 75 C 320 RS 1021,1119 RQ 250/1250 AA 483 D
PE 6 A 75 C 320 RS 1021Z,1119Z .. AA 483 D
Cam sequence and angular cam spacing.
1 - 6 - 3 - 5 - 2 - 4 - 1
0 -75 -120-195-240-315-360°

(1) supersedes 5.64
(2) company. KHD
(3) engine. F 6 L 613
(125 PS - 1)
(126 PS - 2)
(115 PS - 3)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,7 - 7,6	0,3			
	9	3,8 - 4,2				
	15	9,4 -10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

AA 312 D (1)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1200	14,8-15,6	1200	15	1270	12,4-15	430	0	200	6,5-8,1	350	16 - 16,5
				1280	8,6-15			250	4 -6,5	800	15,8-16
				1300	2 -11,4			300	0 - 3	1000	15,2-15,6
				1340	0 - 4,6			330	0	1100	15 -15,2
				1370	0						

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation. At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel mm cm³/1000 strokes 7
1230	67,0 - 69,0	400	800	68,5 - 71,5		
			400	65,0 - 68,0		

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Checking values in brackets

BOSCH
Geschäftsbereich KH Kundendienst. Kfz-Ausrüstung.

B Governor Settings

.. AA 483 D (2) (3)

(2)

Checking of slider PRG check (1)		Full load speed regulation Setting point		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1200	14,3-15,1	1200	14,7	1250 1260 1280 1300 1350	14,5-14,7 11,5-14,7 5 -12,5 0 - 9 0	430	0	200 250 300 330	6,6-8,1 4 - 7 0 - 3 0	700 800 900	15,8-16,0 15,3-15,7 14,7-15,1

Torque-control travel on flyweight assembly dimension a 0,4 mm

Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever (2) Test oil temp 40° C (104 F)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
rev/min	cm^3/ - 1000 strokes	rev/min	rev/min	cm^3/ - 1000 strokes	rev/min	Control rod travel cm^3/ 1000 strokes / mm
1	2	3	4	5	6	7
1230	68,5 - 70,5	600	1000 600	68,0 - 71,0 70,5 - 73,5		
1230	63,0 - 65,0	600	600	66,0 - 69,0		

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n rev/min decreasing / increasing pressure - in bar gauge pressure

Pump/governor	Setting Gauge pressure bar	Measurement Gauge pressure bar	Control rod travel - diminution / difference mm (1)

Notes

(1) when n - rev/min and gauge pressure bar (maximum full-load control rod travel)

En

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 DAI 5,1 n
Edition 2.64
En

PES 6 A 70 C 410 RS 1034 RQV 250-1000/1500 AA 501 D
* RQV 250-1000/1450 AA 501 D
* (see page 2)

supersedes
company Daimler-Benz
engine OM 321
OM 312*

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0,3			
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQV 250-1000/1500 AA 501 D

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1) rev/min 10	mm 11
68±1,5	1500	12 - 15	62±1,5	1000	11,2-14,2	10±1,5	200	6,5-8	1000	0
	1550	7,8-12,2		1050	8 -10,8		300	4,6-6,8	900	0,1-0,3
	1600	3 - 9,2		1100	4,4- 7,2		400	1,7- 4	700	0,6-0,8
	1650	0 - 6,2		1200	1,3- 1,7		500	0,6-1,7	500	0,9-1,1
	1740	0		1400	1,3- 1,7		680	0		
				1530	0	(3a)				

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2) rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a) rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b) rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control travel (5) rev/min 8	Control rod travel mm 9
1000	49,0-51,0	1510-1530	500	51,0-54,0			700	
			700	51,0-54,0				
			1500	50,5-53,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

B. Governor Settings

RQV 250-1000/1450 AA 501 D*

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rodtravel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)		Degree of deflection of control lever	rev/min	Control rod travel mm (3)		rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
60±1,5	1450	12 - 15		62±1,5	1000	11 - 14		10±1,5	200	6,6- 8		1000	0
	1500	6,8- 12			1100	4,5-7,4			300	4,6-6,8		900	0,2-0,4
	1550	1,5-8,5			1200	1,3-1,7			450	1 - 2		700	0,7-0,9
	1600	0 - 5			1400	1,3-1,7			550	0 -1,7		500	0,9-1,1
	1660	0			1470	0		(3a)	680	0			

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1000	43,5-45,4	1460-1480	500	45,5-48,5			700	
			700	42,5-45,5				
			1450	46,5-49,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)		Degree of deflection of control lever	rev/min	Control rod travel mm (3)		rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
								(3a)					

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 9,5 d
Edition 12.66
En

PE 6 A 75 C 320 RS 1021 RQ 250/1150 AA 470 L
..RS 1021Z,Y
PE 6 A 75 C 320 RS 1021 RQ 250/1075 AA 151 D
(V 5530 D)

supersedes 9.64
company K H D
engine F6 L 714

Cam sequence and angular cam spacing.
1 - 6 - 3 - 5 - 2 - 4 - 1, 0- 75-120-195-240-315-360°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,7 - 7,6	0,4			
	9	3,8 - 4,2				
	15	9,4 -10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

RQ 250/1150 AA 470 D

Checking of slider PRG check ① Control rod travel		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
1100	14,6-15,4	1100	15,0	1150	14,8-15,0	440	0	200	6,8-8,1	700	15,8-16,0
				1160	11,0-15,0			250	4,0-6,6	800	15,3-15,7
				1180	3,0-12,5			340	0 -3,0	900	15,0-15,2
				1200	0 - 9			440	0		
				1240	0						

Torque-control travel on flyweight assembly dimension a = 0,3 mm

Speed regulation. At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	Control rod travel cm³/1000 strokes / mm 7
1130	90,0 - 92,0	600	1000	91,0 - 94,0	100	ca. 19mm RW
			600	94,0 - 97,0		

Checking values in brackets

./.

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1000	13,8-14,6	1000	14,2	1075	14,0-14,2	440	0	150	7,3-8,1	400	15,7-16,2
				1120	7,5-12,0			200	5,5-8,1	600	15,2-15,6
				1140	4,5-10,5			250	3,0-5,6		
				1200	0 - 5			300	0 -2,0	800	14,6-15,1
				1240	0			340	0		

Torque-control travel on flyweight assembly dimension a = 0,55 mm

Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Testoil-ISO 4113

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	Control rod travel cm^3/1000 strokes / mm
1	2	3	4	5	6	7
1130	76,7 - 78,7	600	1000	76,5 - 79,5		
"Z"			600	78,5 - 81,5		
"Y"						
1130	79,5 - 81,5	600	1000	81,0 - 84,0		
			600	81,5 - 84,5		

Checking values in brackets

B. Governor Settings

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

Torque-control travel on flyweight assembly dimension a = mm

Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104 F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	Control rod travel cm^3/1000 strokes / mm
1	2	3	4	5	6	7
1050	73,0 - 75,0	600	600	77,5 - 80,5		
			800	76,5 - 79,5		

En Checking values in brackets

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Test Specifications Fuel Injection Pumps ① and Governors

PE 6 75 C 320 RS 1021 RQV 250-1150 AA 453 D
RQV 250- 750/1150 AB 706 D./.

supersedes 2.64
company KHD
engine F 6 L 714, (150PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	3,8 - 4,2				
1000	12	6,7 - 7,6				
	18	9,4 -10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in [ ]

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.66	1150	14,6-17,8	-	-	-	ca.10	200	6,7- 8	1150	0
	1160	13,6-17,4					300	3,2-4,6	1000	0,3-0,4
	1200	9,6-14,2					400	2,7-3,8	800	0,6-0,7
	1250	4,2-10,6					500	1,9-3,3	600	0,8-0,9
	1300	0 - 6,2					600	0,9-2,2		
	1370	0				(3a)	760	0		

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1130	81,5 - 83,5	1170	1000	83,5 - 86,5				
			600	82,5 - 85,5				
			400	76,5 - 79,5				

./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH Geschäftsbereich KH Kundendienst, Kfz-Ausrüstung
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RQV .. AB 706 DR

B. Governor Settings

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.68	1150	15,0-16,5	ca.63	800	14,6-17,5	ca.12	200	6,2-8,0	750	0
	1200	10,4-14,6		900	7,6-10,5		300	1,8-4,2		
	1250	5,5-11,2		1000	3,0-3,4		400	0,3-1,4	550	0,4-0,6
	1320	0 - 6,0		1150	3,0-3,4		520	0	400	0,7-0,8
	1400	0		1250	0	(3a)				

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- diminution / difference
	Gauge pressure = bar	Gauge pressure bar	mm

En

Testoil-ISO 4113

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G 19

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 9,5 c
Edition 6.67

En

PE 6 A 75 C 320 RS 1021

RQ 250/1150 AA 415 D
RQ 250/1150 AV 6538
AAV7250
ABV9117

Cam sequence and angular cam spacing.
1 - 6 - 3 - 5 - 2 - 4 - 1
0 -75 -120-195-240-315-360°

supersedes 5.64
company K H D
engine F 6 L 714 (150 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,8 - 4,2	0,4			
	12	6,7 - 7,6				
	15	9,4 -10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

..AA 415 D

Checking of slider PRG check ① rev/min 1	Control rod travel mm 2	Full-load speed regulation Setting point rev/min 3	Control rod travel mm 4	Test specifications ④ Control rod travel mm 5	rev/min 6	Idle speed regulation Setting point rev/min 7	Control rod travel mm 8	Test specifications ⑤ rev/min 9	Control rod travel mm 10	Torque control ③ rev/min 11	Control rod travel mm 12
450	15,4-16,2	450	15,8	1150	14,2-14,5	440	0	200	6,8-8,1	500	15,6-15,8
				1180	4,0-12,0			250	4,0-7,0	700	15,2-15,6
				1200	0 - 9,0			300	0- 3,0		
				1240	0			330	0	1000	14,5-14,9

Torque control travel on fly-weight assembly dimension a = 0,5 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F) rev/min 1	cm³/-1000 strokes 2	Control rod stop ③a rev/min 3	Fuel delivery characteristics ③b rev/min 4	cm³/-1000 strokes 5	Starting fuel delivery Idle speed ⑥ rev/min 6	Control rod travel cm³/1000 strokes mm 7
1130	85,0 - 87,0	600	600	91,0-94,0		
			900	87,5-90,5		

./.

Checking values in brackets

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B Governor Settings

Checking of slider PRG check (1)		Full load speed regulation				Idle speed regulation				Torque control (3)	
		Setting point		Test specifications (4)		Setting point		Test specifications (5)			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
450	15,7-16,3	450	16,0	1150 1170 1200 1240	15,5-16,0 9,0-15,0 0 - 9,5 0	430	0	200 250 300 330	6,4-8,1 4,0-6,5 0 -3,0 0	-	-

Torque-control travel on flyweight assembly dimension a mm Speed regulation At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full load delivery on governor control lever (2) Test oil temp 40 C (104 F)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery idle speed (6)	
rev/min	cm^3/- 1000 strokes	rev/min	rev/min	cm^3/- 1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7
1130	89,5 - 91,5	1150				

Checking values in brackets

Governor ..AV 6538 or ..AAV 7250 or ..ABV 9117 is the same as ..A 415D, however with no discs beneath torque-control spring.

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing / increasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel: diminution / difference
	Gauge pressure bar	Gauge pressure bar	mm (1)

Notes

(1) when n bar (maximum full-load control rod travel)

En

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Test Specifications Fuel Injection Pumps and Governors

VDT-WPP 001/4 VOL 5,0 a
Edition 6.68
En

PES 6 A 85 C 320 RS 2158 EP/MZ 60 A 154/1

supersedes 11.66
company Volvo
engine D 50 A

Testing with "B" leads
* See page 2!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 5	Fuel delivery cm³/100 strokes 6	Spring pre-tensioning (torque-control valve) mm 7
	12	5,6 - 6,0	0,3	*		2,5 ± 0,1 (max. 2,2-2,9)
	6	0,1 - 0,7				
1000	9	1,8 - 2,5				
200	9	0,9 - 1,6				

Adjust the fuel delivery from each outlet according to the values in

Testoil-ISO 4113

B. Governor Settings

Torque control travel mm 1	Leakage: Vacuum pressure drop mm water col 2	Leakage: Time at least s 3	Control-rod travel limitation breakaway*: Vacuum mm w c 4	Control-rod travel limitation breakaway*: Control rod travel mm 5	Control rod travel test: Vacuum mm w c 6	Control rod travel test: Control rod travel mm 7	Auxiliary spring auxiliary cam**: Vacuum mm w c 8	Auxiliary spring auxiliary cam**: Control rod travel mm 9	Torque control: Vacuum mm w c 10	Torque control: Control rod travel mm 11
-	500-480	10	400	10,8	450	6,5	400	10,6-11,0		
							410-430	Breakaway		
							440	6,3-9,4		
							470	3,7-6,0		
							500	1,9-3,7		

control rod travel test (cols 4-11)
= rotational speed 500 rev/min
adjust breakaway (cols 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40° C (104 F): rev/min 1	Vacuum mm wat col 2	cm³/1000 strokes 3	Fuel delivery characteristics: rev/min 4	Vacuum mm wat col 5	cm³/1000 strokes 6	Idle (stop)** Idle (imbalance): rev/min 7	Vacuum mm wat col	Control road travel from full-load to idle: mm cm³/1000 strokes 8
800	360-380	43,0-45,0	1250	ca. 450	9,5-14,5			
500	360-380	37,0-41,0	dispersion max.		3,0			

./.

Checking values in brackets

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B. Governor Settings

(Spring 1 242 615 050)*

Torque control travel	Leakage		Control-rod travel limitation breakaway*		Control rod travel test		Auxiliary spring auxiliary cam**		Torque control	
	Vacuum pressure drop	Time at least	Vacuum	Control rod travel	Vacuum	Control rod travel	Vacuum	Control rod travel	Vacuum	Control rod travel
mm	mm water col	s	mm w c	mm	mm w c	mm	mm w c	mm **	mm w c	mm
1	2	3	4	5	6	7	8	9	10	11
-	500-480	10	400	10,8	500	6,5	400	10,6-11,0		
							460-480	Breakaway		
							500	5,1- 8,2		
							540	1,7- 4,1		

control rod travel test (cols 4-11)
rotational speed 500 rev/min
adjust breakaway (cols 4-5) by means of shims*
cam adjustment (B 8-9 - C 7-8) by means of shims**

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp 40° C (104 F)			Fuel delivery characteristics			idle (stop)** idle (imbalance)		Control road travel from full load to idle
rev/min	Vacuum mm wat col	cm³/1000 strokes	rev/min	Vacuum mm wat col	cm³/1000 strokes	rev/min	Vacuum mm wat col	mm cm³/1000 strokes
1	2	3	4	5	6	7		8
800	410-430	43,0 - 45,0	1250	ca.450	9,5-14,5	)		
500	410-430	37,5 - 40,5	dispersion		max. 3,0			

Checking values in brackets

Sequence of tests:

1. Basic setting of pump (Section A)

2. Testing of governor and setting of breakaway (insertion of shims beneath governor spring - max. 2.5 mm) (Section B)

3. Adjustment of supplementary spring (Section B, Columns 6 - 7)

4. Adjustment of full-load delivery (Section C)
   (Section B can no longer be tested after setting full-load delivery!)

5. Low idle
   n = 250 = 4.5-9.5 cm^3/1000 strokes (approx. 6 mm control-rod travel)
   scatter max. 1.0 cm^3; in the event of larger scatter, the initial tension of the valve spring is to be altered accordingly (Section A, Column 6)

6. High idle;
   n = 1250 = 9.5-14.5 cm^3/1000 strokes (approx. 6 mm control-rod travel) scatter max. 3.0 cm^3.

7. More tamper-resistant control-rod stop:
   Pull knob of pressure plate into end position when stopped and release again; control rod must attain at least 18 mm control-rod travel.
   Full-load position must be reached again at n = 500 and WG 400 mm.

* Note: As of date of manufacture (FD) 711, use is made of the new governor spring (1 424 615 050) - replace when performing repairs. The test specifications below then apply!

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 KHD 1 a
2. Edition

En

supersedes 3.68
company K H D
engine ..514
..614
..714

Engine-speed and delivery settings for KHD engines F/A..L514, ..614..714

Test specifications:

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Index of governors	3
RQ governors	4
RQV governors (general)	9
RQV governors (F/A 10-12 L 714)	15
EP/RSV governors	21
Section C - Full-load values -	
F/A .. L 514	23
F/A .. L 614	24
F/A .. L 714	27

Notes - Section B:
The various governor versions envisaged for special engine types can be attached to other engines in the KHD range.

Set torque control (on RQ and RQV governors if provided) such that delivery values of Section C, Column 5 are attained.

Set torque control (with EP/RSV governors if provided) in accordance with Section C, Column 8 such that delivery values of Section C, Column 5 are attained.

Not all engine-speed stages are listed with EP/RSV governors; set to next speed up the scale and correct with control lever in line with Section C, Column 3. In the case of nameplate "Changed to" this marked speed + 20 min^{-1} applies (Section C, Column 3).

Notes - Section C:
Engine output (F, B, A) and speed can be seen from engine nameplate; the adjustment data can be taken accordingly from Columns 1...7. Nameplate without indication of output is used in part with vehicle engines (F), see individual sheets KHD..

Accordingly, adjustment is to be made exclusively on the basis of Columns 1...3 for governors without torque control and output data which are provided with torque control.

F - Output = Vehicle output DIN 70 020
A - Output = Overloadable - as per DIN 6270
B - Output = Non-overloadable - as per DIN 6270
B - Output = For heavy-duty continuous operation - marked in some cases with -A-

In cases of doubt, these tables are also to be used for locating the full-load delivery of the individual sheets WPP/001/4, KHD.. Additional letters ..Z, ..Y, for engines with A and B output are then of no significance in this context. Intermediate values are to be determined accordingly.

These documents, in particular the full-load values - Section C - on pages 23-31, have been compiled with the cooperation and approval of KHD.

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A. Fuel Injection Pump Settings (basic adjustment)

Pump design			Delivery quantities Checking values (in brackets)				Start of delivery at prestroke	Remarks
Designation	Lead mm	Plunger Ø	Engine speed min⁻¹	Control-rod travel mm	Basic setting in cm³/1000 strokes Full-load setting in cm³/1000 strokes	Difference cm³/1000 strokes	mm after BDC	
1	2	3	4	5	6	7	8	9
PE..A..S.. 23,39,59 77,83,84, 100,153, 169, 178,198, 490,1099, 1126,1154, 42	15	7,5	1000	6	0,9 - 1,7			
				9	3,2 - 3,7	0,3	1,9+0,1	Cam sequence Angular cam spacing page 32
				15	8,5 - 9,5			
			200	9	1,9 - 2,8			
1021, 1022, 1169, 1170	15	7,5	1000	9	3,8 - 4,2			
				12	6,7- 7,6	0,4	1,9+0,1	"
				15	9,5 -10,6			
			200	9	2,1 - 2,9			
1035, 1036, 1052, 1154,	15	7,5	1000	9	3,0 - 3,7			
				12	6,2 - 6,6	0,4	1,9+0,1	"
				15	8,5 - 9,5			
			200	9	1,9 - 2,8			
1100, 1115, 1137	15	7,5	1000	6	1,9 - 2,6			
				9	4,7 - 5,1	0,3	1,9+0,1	"
				15	10,4 -11,5			
			200	6	0,9 - 1,8			
77,178, 466,527	15	8	1000	6	1,2 - 2,0			
				9	4,1 - 4,5	0,3	2,15+0,1	"
				15	10,3 -11,4			
			200	9	2,9 - 3,7			
	15	8,5	1000	6	1,3 - 2,1			
				9	4,9 - 5,5	0,4	2,15+0,1	
				15	12,3 -13,1			
			200	9	3,9 - 4,4			
466,2087	15	9	1000	6	1,4 - 2,2			
				9	5,9 - 6,4	0,4	2,15+0,1	
				15	14,3 -15,8			
			200	9	3,9 - 4,4			

Index of listed governors - arranged according to V numbers:

Governor V..		free	PRG	Page
RQV..	V1680	A34	48S4	12
	V1687	-	-	10
	V1688	-	48S41	13
	V1689	A36	48S7	12
	V1692	-	48P97	14
	V1693	A40D	48S8	12
	V1718	A36	48S5	12
	V1720	-	48S14	12
	V1720D	-	48P187	14
	V1803	-	48S21	13
	V1804	-	48S43	13
	V1805	A59	48S23	13
	V1806	-	48S24	13
	V1807	-	48S31	13
	V1808	A59	48S18	12
	V1866	-	48S21	13
	V1867	-	48S43	13
	V1868	A69	48S23	13
	V1869	A69	48S24	13
	V1870	-	48S31	13
	V1871	-	48S18	12
	V2064D	A353D	-	10
RQ..	V2067D	-	-	5
RQV..	V2175	A526	48S34	13
RQ..	V2352D	-	-	5
	V2353D	-	-	5
	V2354D	-	-	6
	V2355D	-	-	6
	V2356D	-	-	6
	V2357D	-	-	6
	V2358D	-	-	7
	V2359D	-	-	7
	V2389D	-	-	7
	V2400D	-	-	7
	V2401D	-	-	8
RQV..	V2427	-	-	10
	V2462	A127	48S60	14
	V2451	-	-	11
	V2518	A317	48S8	12
	V2520	-	-	10
	V2521	-	-	11
RQ..	V2543D	-	-	8
RQV..	V2694 - V2713D		-	11 - 8
	V2760	-	48S4	12
	V2998	-	-	11
	V3085D	-	48P97	14
	V3291	-	-	11
	V3452	-	-	11
RQ..	V3677	-	-	8
RQV..	V3754D	-	-	20
	V3887D	A328D	48P100	14
	V3938	-	48S3	12
	V4089	A36	48S14	12
	V4545D	-	-	14
RQ..	V5530D	A151D	49P396	8
RQV..	V5909	-	-	11
EP/RSV-	V5935	A374		21
RQ..	V6124D,	AD-	-	8
RQV..	V6348D	-	-	11
EP/RSV-	V6521	A374	-	22

Governor V..		free	PRG	Page
RQV..	V6662D	-	48S8	12
RQ..	V6663	-	-	8
EP/RSV-	V6946D	-	-	21
	V6985D	A56D	-	22
	V7229D	A56D	-	22
RQV..	V7350D	A527D	48P187	14
EP/RSV-	V7427	B224	-	22
	V7428D	B56D	-	22
RQV..	V7631	587R	-	18
RQ..	V7690D	-	-	6
RQV	V7765D	A586D	-	15..
	V7766	-	-	15..
	V7769	-	-	15..
	V7768	-	-	15..
	V7769	-	-	15..
	V7770	-	-	15..
	V7771	-	-	15..
	V7772	-	-	15..
	V7773	-	-	15..
	V7774	A478,480		15..
	V7775	-	-	15..
	V7776	-	-	15..
	V7777	-	-	15..
	V7778	-	-	15..
	V8000	-	-	15..
RQ..	B8070D	-	-	8
EP/RSV-	V8134D	B469D-8249D	-	22
RQ..	V8302D	-	-	7
RQV..	V8306	-	48S43	13
	V8307	-	48S24	13
	V8348	-	48S41	13
	V8467	-	48S5	12
	V8478	-	48S31	13
RQ..	V8496D	-	-	7
RQV..	V8518	-	-	15..
	V8519	-	-	15..
	V8520	-	-	15..
	V8521	-	-	15..
	V8522	-	-	15..
	V8523	-	-	15..
	V8524	-	-	15..
	V8525	-	-	15..
	V8526	-	-	15..
	V8527	-	-	15..
	V8528	-	-	15..
	V8529	-	-	15..
	V8530	-	-	15..
	V8531	-	-	15..
	V8532	-	-	15..
RQ..	V8616D	-	-	7
	V8617D	-	-	32
EP/RSV-	V8699D	-	-	22
RQ..	V8720D	-	-	7
EP/RSV-	V8721	A374	-	22
RQV..	V8746	AB633,634	-	15..
	V8769D	AB586D	-	15..
	V8762	-	-	20
RQ..	V8919D		-	32

Index of released governors (arranged according to code numbers):

RQ and RQV	PRG .. Z	page	RQ and RQV	PRG .. Z	page
RQV..A34	48S3, 4	12	RQV..A527D	48P187	14
A36	48S4,5,6,7,14	12	A586D	1428101046	20
A40D	48S8, 13	12	A587	..066	18
A59	48S18, 23	12-13	A618D,632D	..046	20
A67	48S21	13	A633,634	48S23/..056	13
A69	48S23,24	13	EP/RSV..A56D		21-22
A74D	48P97,100	14	A63D,64D		21
A86	48S34	13	A186D		22
A106	48S3	12	A224		22
A119	48S34	13	A233D 261D		22 20
A127	48S60	14	319		21
A129	48S4,5,29	12-13	A324,325		21
RQ.. A151D	49P396	8	A374		21-22
RQV..A153D	48S74	14	A430D		22
A236	48S5,29,123	12-14	A469D		22
A238D	48P100	14			
A317	48S8	12			
A353D	(V2064D)	11			
A478,480	48S174	20			
A526	48S34	13			

KHD engines F/A ... L 514/614/714

Maximum idle speed governors RQ (arranged according to V numbers):

Governor designation RQ	Spring set PSF ..	X	Torque-control spring PSF 12 S .. X
250/1000 AV2067D	14 S 5	15 S 6	17 S 5	12
250/ 400 AV 2352D, 2352AD	14 S 1	-	17 S 5	(10, 12
250/ 500 AV 2353 D, 2353AD	14 S 1	-	17 S 6	(10, 12
250/ 600 AV 2354 D, 2354AD	14 S 1	15 S 2	17 S 7	(10, 12
250/ 675 AV 2355 D, 2355AD	14 S 1	15 S 2	17 S 8	(10, 12
250/ 750 AV 2356 D, 2356AD	14 S 1	15 S 4	17 S 5	(10, 12
250/ 800AV 2357 D, 2357AD, 7690D, 8496D	14 S 1	15 S 4	17 S 6	(10, 12
250/ 900 AV 2358 D, 2358AD, 8302D, 8616D	14 S 1	15 S 8	17 S 8	(10, 12
250/1000 AV 2359 D, 2359AD	14 S 1	15 S 6	17 S 6	(10, 12
250/1050 AV 2389 D, 2389AD	14 S 1	15 S 7	17 S 7	(10, 12
250/950 AV2400 D, 8720 D	14 S 1	15 S 7	-	12
200/950 AV2401 D	14 S 6	15 S 7	-	12
200/975 AV2543 D	14 S 6	15 S 6	17 S 5	12
250/750 AV3677	14 S 5	15 S 4	17 S 1	-

Test AV..BD with spring-mounted link fork and Pierce governor (for precision adjustment) as ..D and AD. Consult KHD as regards Pierce governor.

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B. Governor Settings

RQ (arranged according to V numbers):

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
	Control rod travel		Control rod travel		Control rod travel		Control rod travel		Control rod travel		Control rod travel
rev/min	mm	rev/min	mm	rev/min	mm	rev/min	mm	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11	12

250/1000 AV2067D * = 0,6mm

980	13,9-14,5	980	14,2	1000	14,0-14,3	530	0	180	6,2-8,1	500	15,5-16,2
				1020	9,5-14,0			250	4,8-6,9	700	15,1-15,6
				1050	0 - 9,5			350	1,4-3,8	900	14,4-14,8
				1100	0			430	0		

RQ 250/400 AV 2352D * =0,8mm

				400	15,6-15,9			200	6,4-8,1	325	15,8-16,7
				410	12 -15,6			250	3,5-6,4	350	15,7-16,4
390	15,5-16,1	390	15,8	425	7 -12,5	450	0	300	0 -2,5	375	15,6-16,2
				450	0 - 6,5			350	0		
				475	0						

RQ 250/400 AV 2352 AD * =0,6mm

				400	15,6-16,1			200	6,4-8,1	325	15,8-16,6
				410	12 -15,8			250	3,5-6,4	350	15,8-16,5
390	15,5-16,1	390	15,8	425	7 - 12,5	450	0	300	0 -2,5	375	15,7-16,3
				450	0 - 6,5			350	0		
				475	0						

RQ 250/500 AV 2353 D * torque-control travel Maß a =0,8mm

				500	15,2-15,6			220	6,6- 8	350	15,8-16,7
				510	11,5-15			250	5 - 7,5	400	15,6-16,2
475	15,3-15,9	475	15,6	525	5 -12	450	0	300	1 - 4,4	450	15,4-15,8
				540	0 - 8			350	0		
				570	0						

Maximum idle speed governors RQ (arranged according to V numbers): (cont.)

Governor designation RQ	Spring set PSF .. X			Torque-control spring PSF 12 S .. X
250/1075 AV5530D	PRG 49 P 396 Z			
350/1000 AV5969D	14 S 13	15 B 6	17 S 6	12
300/1000 AV6124D	PRG 49 S 21 Z			
300/1000 AV6363	14 S 2	15 S 7	17 S 6	-
250/800 AAV7690D	→	2357D		
325/1000 AA8070D	14 S 2	15 S 7	17 S 5	12
250/900 ABV8302D	→	2358D		
250/800 ABV8496D	→	2357AD		
250/900 ABV8616D	→	2358AD		
250/950 ABV8720D	→	2400D		
325/1000 ABV 8617D, 8919D	14 S 2	15 D 7	17 S 5	12

Type designations and part numbers:

PSF 14 S 1 X	1 424 616 020	PSF 15 S 6 X	1 424 632 010
14 S 2	1 424 616 021	15 S 7	1 424 632 011
14 S 5	1 424 617 016		
14 S 6	1 424 616 022	PSF 17 S 1 X	1 424 615 000
14 S 13	1 424 617 021	17 S 5	1 424 615 001
		17 S 6	1 424 616 035
PSF 15 S 2 X	1 424 630 001	17 S 7	1 424 616 034
15 S 4	1 424 631 005	17 S 8	1 424 617 030

B. Governor Settings

RQ (arranged according to V numbers): cont.

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

RQ 250/500 AV 2353 AD

* = 0,6 mm

				500	15,5-15,9			220	6,6-8	350	15,8-16,7
				510	11,5-15,5			250	5 -7,5	400	15,7-16,4
475	15,4-16	475	15,7	525	5 -12	450	9	300	1 -4,4	450	15,6-16
				540	0 - 8			350	0		
				570	0						

RQ 250/600 AV 2354 D

* = 0,8 mm

				600	14,8-15,2			220	6,6-8	350	15,8-16,7
				610	11 -14,4			250	5 -7,5	450	15,4-15,8
575	14,8-15,4	575	15,1	625	3 -11	450	0	300	1 -4	550	15,1-15,4
				640	0 -7,5			350	0		
				670	0						

RQ 250/600 AV 2354AD

* = 0,6 mm

				600	15,2-15,6			220	6,8-8	350	15,8-16,8
				610	11 -15			250	5 -7,5	450	15,6-16
575	15,2-15,8	575	15,5	625	4 -11,5	450	0	300	1 -4	550	15,3-15,7
				640	0 -7			350	0		
				670	0						

RQ 250/675 AV 2355 D

* = 0,8 mm

				675	14,6-14,9			200	7 - 8	350	15,7-17
				700	7 -12			250	4,5-7	500	15,2-15,6
650	14,5-15,1	650	14,8	725	0 - 7,5	440	0	300	0,5-3,5	650	14,6-15
				760	0			340	0		

RQ 250/675 AV 2355 AD

* = 0,6 mm

				675	15 -15,4			200	7 - 8	350	15,8-17
				700	7 - 12			250	4,5-7	500	15,5-15,9
650	15-15,6	650	15,3	725	0 - 7,5	440	0	300	0,5-3,5	650	15,1-15,4
				760				340	0		

RQ 250/750 AV 2356 D

* = 0,8 mm

				750	14,2-14,6			200	7,5-8	350	15,7-16,8
				760	10 -14,5			250	5 -7,5	500	15,2-15,6
730	14,2-14,8	730	14,5	775	2 -11	450	0	300	0 -4,3	700	14,5-14,8
				790	0 - 7			350	0		
				820	0						

RQ 250/750 AV 2356 AD

* = 0,6 mm

				750	14,9-15,2			200	7,5-8	350	15,8-16,8
				760	10 -15			250	5 -8	500	15,7-15,9
730	14,8-15,4	730	15,1	775	2 - 11	450	0	300	1 -4,4	700	15 -15,4
				790	0 - 7			350	0		
				820	0						

RQ 250/800 AV 2357 D, AAV, 7690 D

* torque-control travel Maß a = 0,8 mm

				800	14 -14,4			220	7 - 8	350	15,7-16,8
				810	9 -14			250	5 - 7,5	550	15 - 15,4
780	14-14,6	780	14,3	825	2 - 11	450	0	300	1 - 4	750	14,2-14,6
				840	0 - 7			350	0		
				870	0						

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B. Governor Settings

RQ (arranged according to V numbers): cont

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

RQ 250/800 AV 2357 AD, ADV 8496 D * = 0,6 mm

				800	14,6-15			220	7 - 8	350	15,8-17
				810	10 -14,6			250	5 - 7,5	550	15,4-15,8
780	14,5-15,1	780	14,8	825	2 -11	450	0	300	1 - 4	750	14,7-15,2
				840	0 - 7			350	0		
				870	0						

RQ 250/900 AV 2358 D, ABV 8302 D * = 0,8 mm

				900	13,6-14			200	7 - 8	400	15,6-16,4
				910	9 -13,8			250	5 - 7,5	600	15 -15,3
880	13,6-14,2	880	13,9	930	2 -11	450	0	300	1 - 4	800	14,1-14,3
				950	0 - 7			350	0		
				990	0						

RQ 250/900 AV 2358 AD, ABV 8616 D * = 0,6 mm

				900	14,2-14,6			200	7,5 - 8	400	15,7-16,3
				910	10 -14,5			250	5 -7,5	600	15,2-15,6
880	14,2-15,8	880	14,5	930	0 - 11	450	0	300	1 - 4	800	14,6-14,9
				950	0 - 7			350	0		
				980	0						

RQ 250/1000 AV 2359 D * = 0,8 mm

				1000	13,2-13,8			200	6 - 8	400	15,8-16,4
				1010	9 -13,6			250	4 - 7	600	15 -15,4
980	13,3-13,9	980	13,6	1030	1 - 11	450	0	300	0 - 4	800	14,1-14,6
				1050	0 - 6,5			350	0		
				1090	0						

RQ 250/1000 AV 2359 AD * = 0,6 mm

				1000	13,9-14,2			200	7 - 8	400	15,7-16,7
				1010	9 -14			250	4,5-7	600	15,2-15,6
980	13,8-14,4	980	14,1	1030	1 -10,5	450	0	300	1 - 4	900	14,2-14,6
				1050	0 - 6,5			350	0		
				1080	0						

RQ 250/1050 AV 2389 D * = 0,8 mm

				1050	13 - 13,4			200	7 - 8	400	15,7-16,2
				1060	8 - 13,4			250	4,5-7	600	14,8-15,2
1030	13,1-13,7	1030	13,4	1080	0 - 10	440	0	300	0,5-3,5	900	13,5-13,9
				1130	0			340	0		

RQ 250/1050 AV 2389 AB * = 0,6 mm

				1050	13,7-14,1			200	7 -8	400	15,7-16,3
				1060	9 - 14			250	4 -7	600	15,2-15,6
1030	12,8-13,4	1030	13,1	1080	0 - 11	440	0	300	0,5-3,5	900	14,3-14,6
				1130	0			340	0		

RQ 250/950 AV 2400 D, ABV 8720 D * torque-control travel Maß a = 0,6 mm

				950	14,1-14,4			200	7 - 8	400	15,7-16,4
				960	10 -14			250	5 - 7,5	600	15,2-15,6
900	14,2-14,8	900	14,5	980	1 -11	450	0	300	1 - 4	800	14,6-15
				1000	0 - 6			350	0		
				1030	0						

B. Governor Settings

RQ (arranged according to V numbers):

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
200/950 AV 2401 D											* = 0,6 mm
				950	14,1-14,4			100	7 - 8	400	15,7-16,3
				960	11 -12,2			200	4,5-7	600	15,3-15,6
900	14,2-14,8	900	14,5	980	1 -11	440	0	300	0 -2,5	800	14,7-15
				1000	0 -8			340	0		
				1030							
200/975 AV 2543 D										*	= 0,6 mm
				975	14,1-14,5			100	7 - 8	400	15,8-16,3
				990	8 - 14			200	4,5-7	600	15,3-15,7
950	14 -14,6	950	14,3	1010	0 - 10	450	0	300	0 -2,8	800	14,7-15,1
				1060	0			350	0		
250/750 AV3677											
500	17,6-18,4	750	12,0	650	17,8-18,2	880	0	100	5,6-7,0	-	-
				750	11,5-14,0			250	4,0-4,5		
sldg.-sleeve pos'n				800	6,0- 9,0			650	4,0-4,5		
				850	0 - 4,5			720	2,2-4,2		
				900	0			780	0		
	(V6124AD)				(PRG 49 P 396 Z)					*	= 0,5 mm
250/1075 AA151D(V5330D)											
1000	13,8-14,6	1000	14,2	1075	14,0-14,2	440	0	150	7,3-8,1	400	15,7-16,2
				1120	7,5-12,0			200	5,5-8,1	600	15,2-15,6
				1140	4,5-10,5			250	3,0-5,6	800	14,6-15,1
				1200	0 - 5,0			300	0 -2,0		
				1240	0			340	0		
350/1000 AV5969D											
950	14,2-14,8	950	14,5	1020	13,9-14,3	560	0	220	6,5-8,1	450	15,7-16,2
				1050	8,0-12,5			300	4,6-6,8	700	15,2-15,5
				1080	0 - 8,6			350	2,8-5,1	900	14,5-14,8
				1130	0			400	0,5-3,2		
								460	0		
300/1000 AV6124D					(PRG 49 P 21 Z)					*	= 0,6 mm
1000	13,8-14,6	1000	14,2	1020	10,4-14,2	480	0	150	8,0-10,4	350	16,0-21,0
				1060	3,0- 8,2			250	5,1- 7,5	500	15,7-16,1
				1100	0 - 2,6			350	0 - 2,8	900	14,3-14,7
				1120	0			380	0		
300/1000 AV6663											
500	15,6-16,4	500	16,0	1000	15,8-16,0	490	0	150	8,0-10,0		
				1050	7,0-12,0			250	5,0- 7,4		
				1080	0 - 8,0			350	0 - 3,0		
				1140	0			390	0		
325/1000 ABV8070B				-	*	torque-control travel Maß a = 0,65 mm					
950	14,0-14,6	950	14,3	1000	13,8-14,3	510	0	250	7,0-8,1	450	15,7-16,4
				1020	6,0-12,5			300	4,8-7,4	700	15,1-15,5
				1040	0 -10,5			350	2,0-4,6	900	14,4-14,7
				1090	0			410	0		

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Variable-speed governors RQV (arranged according to V numbers):

Governor designation RQV	PRG..Z	Spring set PSF .. Z			Test specifications Page
200-750 AV1680	48 S 4	---			12
200-525 AV1687	-	14 S 8	-	17 S 10	10
200-625 AV1688,V8348	48 S 41	---			13
200-775 AV1689	48 S 7	---			12
200-675 AV1692	48 P 97	---			14
200-1150 AV1693D	48 S 8	---			12
200-900 AV1718,V8467	48 S 5	---			12
200-1000 AV1720,V4089	48 S 14	---			12
250-1050 AV1720D, V7530D	48 P 187	---			14
200/400-500 AV1803	48 S 21	---			13
200/425-600 AV1804,V8306	48 S 43	---			13
200/605-750 AV1805	48 S 23	---			13
200/665-900 AV1806,V8307	48 S 24	---			13
200/565-500 AV1807,V8478	48 S 31	---			13
200/525-750 AV1808	48 S 18	---			12
200/200-500 AV1866	48 S 21	---			13
200/425-600 AV1867	48 S 43	---			13
200/605-750 AV1868	48 S 23	---			13
200/665-900 AV1869	48 S 24	---			13
200/365-500 AV1879	48 S 31	---			13
200/525-750 AV1871	48 S 18	---			12
200/600-1125 AV2064D	-	14 S 15	15 S 15	17 S 14	11
200/625-1150 AV2064D	-	14 S 15	15 S 15	17 S 14	11
200-825 AV2175	48 S 34	---			13
200/710-1000 AV2427	-	14 S 9	15 S 5	17 S 15	10
200/600-825 AV2451	-	14 S 9	15 S 17	17 S 8	11
250/750/900 AV2462	48 S 60	---			14
200-1150 AV2518	48 S 8	---			12
200/710-1000 AV2520	-	14 S 9	15 S 5	17 S 15	10
200/600-825 AV2521	-	14 S 9	15 S 17	17 S 8	11
200-1000 AV2694 2713d-48P87	-	14 S 10	15 S 15	17 S 10	11 KHD10,6e
200-750 AV2760	48 S 4	---			12
350-900 AV2998	-	14 S 4	-	17 S 11	11
200-675 AV3085D	48 P 97	----			14
200/455-675 AV3291	-	14 S 8	15 S 17	-	11
325-1000 AV3452	-	14 S 3	15 S 15	17 S 10	11
250-1150 AV3887D	48 P 100	---			14
200-825 AV3938	48 S 3	---			12
200-1000 AV4089	48 S 14	---			12
250-1000 AV3754D	-	14 S 8	15 S 14	17 S 13	20

RQV (arranged according to V numbers):

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
200-525 AV 1687										
66±1,5	525	11,0-18,0	-	-	-	10±1,5	100	6,8-7,6	-	-
	550	4,0-13,0					200	4,5-6,5		
	575	0 - 8,0					250	3,0-4,8		
	620	0					300	1,5-3,0		
							380	0		
200/710-1000 AV2427, V 2520								V2064 see page 111		
66±1,5	1000	15,0-18,5	34±1,5	600	14,5-15,4	10±1,5	100	6,6-8,0	-	-
	1040	7,0-13,0		700	10,5-14,4		200	5,0-7,0		
	1080	0 - 7,0		800	6,5-9,0		300	3,6-4,0		
	1130	0		900	1,0-3,0		600	3,2-4,0		
				940	0		700	1,0-3,6		
							800	0		

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Variable-speed governors RQV (arranged according to V numbers): cont.

Governor designation RQV	PRG..Z	Spring set PSF .. Z			Test specifications Page
200-900 AV4545D	-	14 S 9	15 S 14	17 S 13	14
200-625 AV5909	-	14 S 3	-	17 S 14	11
200/725-900 AV5937	-	14 S 9	15 S 19	17 S 10	11
200/600-1150 AV6348	-	14 S 15	15 S 15	17 S 14	11
200-1150 AV6622D	48 S 8	---			12
250-1050 AV7350D	48 P 107	---			14
200-1050 AV7847	48 P 96	---			14
200/425-600 ABV8306	48 S 43	→	V1804		13
200/665-900 ABV8307	48 S 24	→	V1806		13
200-625 ABV8348	48 S 41	→	V1688		13
200-900 ABV8467	48 S 5	→	V1718		12
300/365-500 ABV8478	48 S 31	→	V1807		13
200//750/900 ABV8762	-	14 S 2	15 S 18	17 S 19	20

Type designations and part numbers:

PSF 14 S 3 X	1 424 617 015	PSF 15 S 17 X	1 424 633 005
14 S 8	1 424 617 018	15 S 19	1 424 632 013
14 S 9	1 424 617 019	PSF 17 S 8 X	1 424 617 030
14 S 10	1 424 618 043	17 S 10	1 424 616 035
14 S 15	1 424 619 020	17 S 11	1 424 619 025
PSF 15 S 5 X	1 424 631 006	17 S 13	1 424 619 026
15 S 14	1 424 631 007	17 S 14	1 424 617 031
15 S 15	1 424 634 027	17 S 15	1 424 619 027

RQV (arranged according to V numbers): cont

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
200/600-825 AV 2451, V 2521										
66±1,5	825	15,0-18,0	42±1,5	550	14,5-15,5	10±1,5	100	6,4-8,0	-	-
	850	9,6-14,0		600	12,3-15,5		200	4,5-6,6		
	890	0 - 7,3		630	10,5-14,3		300	3,6-4,0		
	940	0		700	5,8- 8,3		500	3,0-4,0		
				750	1,5- 3,6		570	1,2-3,8		
				800	0		660	0		
200-600/1125 AV 2064 D, V 6348 D					Torque-control travel					
200-625/11500 AV 2064 D					on flyweight assembly dimension a = 1,0 mm					
66±1,5	1150	15,0-18,0	54±1,5	625	9,5-18,0	10±1,5	100	6,6-8,0	1130	0
	1200	9,5-14,0		650	7,0-15,0		300	4,4-6,8	600	0
	1250	4,0-10,0		750	2,5- 3,5		400	2,2-4,8	400	0,5-0,7
	1300	0 - 5,5		1150	2,5-3,5		500	0	200	0,9-1,1
	1360	0		1230	0					
300-1000 AV 2694										
66±1,5	1000	15,0-18,0	-	-	-	10±1,5	200	6,5-8,0	-	-
	1050	10,4-13,5					300	3,9-6,1		
	1100	2,8- 9,0					400	2,3-3,8		
	1150	0 - 4,2					500	1,2-2,6		
	1200	0					650	0		
350 - 900 AV 2998										
66±1,5	900	15,0-18,0	-	-	-	10±1,5	300	6,7-8,0	-	-
	950	8,0-13,0					350	5,1-7,4		
	1000	0 - 7,6					450	1,9-3,5		
	1060	0					550	0,3-1,5		
							620	0		
200/455-675 AV 3291										
61±1,5	675	14,8-17,8	34±1,5	500	13,4-17,5	10±1,5	150	6,2-8,0	-	-
	700	9,5-14,0		550	7,8-10,5		200	4,8-7,1		
	730	2,0-10,0		600	4,1- 5,9		300	3,6-4,0		
	780	0		660	0		450	2,8-4,0		
							560	0		
325-1000 AV 3452								V3754D S. 20		
66±1,5	1000	14,8-17,2	-	-	-	10±1,5	300	6,0-8,0		
	1050	8,0-13,0					350	3,6-6,0		
	1100	0 - 8,0					400	3,2-3,8		
	1180	0					500	2,0-3,6		
							690	0		
300 - 625 AAV 5909								V4545D s.S.14		
63±1,5	625	15,0-17,8	-	-	-	10±1,5	280	6,6-8,0		
	650	9,8-14,0					330	4,0-6,6		
	680	2,5- 9,0					380	2,6-3,8		
	730	0					430	1,2-2,6		
							480	0		
200/725-900 AV 5937										
66±1,5	900	13,0-16,8	34±1,5	740	10,5-14,5	10±1,5	100	6,4-8,0		
	920	5,0-12,0		780	7,0-11,0		200	4,6-6,8		
	940	0 - 7,5		820	4,2- 6,8		350	3,6-4,0		
	980	0		910	0		650	3,6-4,0		
							790	0		

RQV (arranged according to PRG):

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
PRG 48 S 3 Z			200-825 A34, 106							
65±1,5	825	15,0-18,0	-	-	-	10±1,5	100	7,4-8,0	-	-
	840	12,7-16,6					200	4,8-7,1		
	880	6,0-11,6					400	1,6-3,0		
	920	0 - 7,2					550	0		
	980	0								
PRG 48 S 4 Z			200-750 A34, 36, 129							
66±1,5	750	15,0-18,0	-	-	-	10±1,5	100	6,3-8,0	-	-
	760	13,0-17,0					200	4,2-6,2		
	800	6,4-12,4					300	2,7-3,8		
	840	0 - 7,2					400	1,3-2,6		
	890	0					500	0		
PRG 48 S 5 Z			200-900 A36, 129 236							
66±1,5	900	15,0-18,0	-	-	-	10±1,5	100	6,1-8,0	-	-
	920	12,4-16,0					200	4,3-6,5		
	960	6,6-12,0					350	2,4-3,8		
	1020	0 - 5,6					500	0,5-1,8		
	1070	0					560	0		
PRG 48 S 7 Z			200-775 A 36							
66±1,5	775	13,6-17,2	-	-	-	10±1,5	100	7,0-8,0	-	-
	800	10,0-14,5				-	200	4,6-6,3		
	840	4,6-10,4					300	2,4-3,3		
	880	0 - 6,4					400	0,6-2,3		
	940	0					500	0		
PRG 48 S 8 Z			200-1150 A40D*						* Torque-control travel dimension a = 1,0	
66±1,5	1150	15,0-18,0	-	-	-	10±1,5	100	7,0-7,6	1150	0
	1200	9,6-14,0					200	4,3-6,6	1000	0,3-0,5
	1260	3,6- 9,2					300	2,6-3,4	800	0,6-0,8
	1300	0 - 6,0					500	1,2-2,6	600	0,8-1,0
	1370	0					730	0	400	0,9-1,1
PRG 48 S 13 Z			200-1125 A40D						*	1,0mm
66±1,5	1125	15,6-18,8	-	-	-	10±1,5	100	6,0-7,0	1125	0
	1160	12,0-15,8					200	4,0-4,6	1000	0,3-0,5
	1240	4,8- 9,6					400	1,9-3,2	800	0,7-0,9
	1300	0 - 4,8					500	1,0-2,5	600	0,9-1,1
	1370	0					670	0	400	0,9-1,1
PRG 48 S 14 Z			200-1000 A36						-	-
66±1,5	1000	15.0-18,0	-	-	-	10±1,5	100	7,5-8,0	-	-
	1020	12,4-16,2					300	3,1-3,8		
	1060	7,4-12,8					400	2,4-3,8		
	1120	0 - 7,2					500	1,2-2,6		
	1190	0					630	0		
PRG 48 S 18 Z			200/525-750 A59							
66±1,5	750	15,0-18,0	34±1,5	100	19,0-22,0	10±1,5	100	6,8-8,4	-	-
	760	12,5-16,7		300	14,4-15,6		200	5,2-7,2		
	800	3,0- 9,5		525	10,6-13,2		300	3,9-4,4		
	840	0 - 2.0		600	6,4- 8,4		500	2,2-4,4		
	850	0		720	0		610	0		

RQV (arranged according to PRG): cont

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
PRG 48 S 21 Z			200/400-500 A67							
65±1,5	500	15,0-18,0	34±1,5	300	14,7-15,3	10±1,5	150	7,0-8,7	-	-
	510	11,0-14,8		350	14,4-15,3		200	4,7-7,1		
	520	6,6-11,8		400	9,1-13,5		250	3,6-4,0		
	540	0 - 6,0		450	2,7- 5,4		350	3,6-4,0		
	560	0		475	0		430	0		
PRG 48 S 23 Z			200/605-750 A59, 69							
66±1,5	750	16,0-19,0	34±1,5	150	20,0-21,6	10±1,5	150	7,2-8,2		
	760	12,0-17,0		250	14,7-15,3		250	3,6-4,0		
	780	5,0-12,0		550	14,2-15,3		500	3,6-4,0		
	800	0 - 7,0		650	6,9- 9,8		600	0,8-4,0		
	830	0		730	0		650	0		
PRG 48 S 24 Z			200/665-900 A69							
66±1,5	900	16,0-19,6	34±1,5	570	15,0-16,0	10±1,5	100	6,6-8,4		
	920	11,0-15,8		665	10,4-13,6		200	4,6-7,0		
	960	1,0- 8,0		700	9,0-11,8		250	4,0-4,4		
	1000	0 - 1,2		800	3,0- 5,0		550	4,0-4,4		
	1020	0		860	0		740	0		
PRG 48 S 29 Z			200-800 A129, 236							
65±1,5	800	15,0-18,0	-	-	-	10±1,5	100	7,0-8,4		
	820	11,8-15,5					200	4,8-7,0		
	860	5,4-10,8					300	3,3-4,2		
	900	0 - 6,2					400	2,0-3,3		
	960	0					550	0		
PRG 48 S 31 Z			200/365-500 A							
65±1,5	500	15,0-17,6	34±1,5	300	14,7-15,3	10±1,5	100	7,3-8,2	-	-
	510	10,6-14,5		350	12,8-15,3		150	6,2-8,2		
	530	2,3- 9,0		400	8,0-10,3		250	3,6-5,0		
	550	0 - 3,8		450	2,0- 3,8		350	2,0-4,0		
	570	0		470	β		410	0		
PRG 48 S 34 Z			200-825 A86, 119, 526							
65±1,5	825	15,0-18,0	-	-	-	10±1,5	100	6,2-8,0		
	840	12,4-15,6					200	5,0-6,8		
	880	5,4-11,0					300	3,4-4,8		
	940	0 - 3,8					400	2,3-3,5		
	970	0					570	0		
PRG 48 S 41 Z			200-625 A							
65±1,5	625	15,0-18,0	-	-	-	10±1,5	100	6,8-8,5	-	-
	640	11,0-15,6					200	5,0-7,2		
	680	3,2- 9,8					300	3,0-4,6		
	720	0 - 3,8					400	0,5-1,7		
	750	0					450	0		
PRG 48 S 43 Z			200/425-600 A							
65±1,5	600	15,0-17,0	34±1,5	300	14,7-15,3	10±1,5	100	7,0-8,0	-	-
	625	9,0-13,0		400	12,4-15,2		200	4,4-6,6		
	650	0 - 8,0		500	5,0 - 8,4		300	3,6-4,0		
	680	0		560	0		400	2,2-4,0		
							490	0		

RQV (arranged according to PRG): cont

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel / Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
PRG 48 S 60 Z			250/750/900 A127							
65±1,5	900	14,8-18,0	50±1,5	750	15,0-19,5	10±1,5	200	7,3-8,0	-	-
	920	9,6-14,4		760	12,0-16,0		300	3,6-4,0		
	960	0 - 7,4		780	6,0-10,0		650	3,6-4,0		
	1010	0		810	2,2- 3,0		750	0		
PRG 48 S 74 Z			250-825 A153D						* = 0,6 mm	
65±1,5	825	15,0-18,0	-	-	-	10±1,5	150	7,0-8,0	825	0
	840	12,0-15,4					250	4,3-6,6	800	0,1-0,2
	880	6,0-11,0					300	3,0-4,2	700	0,4-0,6
	920	0 - 6,3					400	1,8-3,3	650	0,5-0,7
	980	0					530	0		
PRG 48 P 96 Z			200-1050 A							
65±1,5	1050	15,0-18,0	-	-	-	10±1,5	100	6,8-8,0	-	-
	1080	11,0-15,2					200	5,0-7,0		
	1120	6,3-11,6					300	3,0-3,8		
	1180	0 - 6,2					500	1,2-2,6		
	1250	0					640	0		
PRG 48 P 97 Z			200-675 A74D						* = 0,6mm	
	675	14,8-17,4	-	-	-	10±1,5	100	7,0-8,0	675	0
	680	14,0-17,0					200	4,5-7,0	600	0 -0,3
	720	5,6-11,0					300	2,6-3,6	500	0,3-0,6
	760	0 - 5,4					400	1,0-2,0	350	0,5-0,6
	800	0					480	0		
PRG 48 P 100 Z			250-1150 A74D						* = 0,6 mm	
66±1,5	1150	14,6-17,6	-	-	-	10±1,5	200	7,0-8,0	1150	0
	1180	11,6-15,8					250	4,6-7,0	1000	0,1-0,3
	1240	5,3-11,0					300	3,2-4,6	800	0,3-0,5
	1300	0 - 6,4					500	1,9-3,3	600	0,5-0,7
	1370	0					750	0		
PRG 48 P 123 Z			200-825 A236							
66±1,5	825	15,0-16,4	-	-	-	10±1,5	100	7,1-8,0	-	-
	840	12,8-14,8					200	4,8-7,2		
	900	4,0- 7,6					400	1,8-2,5		
	940	0 - 2,4					500	0 -0,6		
	960	0					530	0		
PRG 48 P 187 Z			250-1050 AA527D						* = 1,2mm	
66±1,5	1050	15,0-19,8	-	-	-	10±1,5	150	7,0-8,0	1050	0
	1120	7,0-12,4					250	4,2-6,4	800	0,6-0,8
	1160	2,0- 8,8					450	2,0-3,5	600	0,9-1,1
	1200	0 - 4,8					600	0,3-1,5	400	1,1-1,3
	1250	0					700	0		
200-900 AV4545D			* Torque-control travel dimension a = 0,9mm							
66±1,6	900	15,0-18,0	-	-	-	10±1,5	100	6,2-8,0	900	0
	920	12,0-16,0					200	4,2-7,6		
	950	8,0-13,0					300	2,8-3,8	700	0,4-0,6
	1000	0,5- 8,0					450	1,2-2,6		
	1080	0					590	0	450	0,8-1,0

KHD engines F/A 10..12L714

Variable-speed governors RQV (arranged according to V numbers):

Governor designation RQV	PRG 1420.. additionally	Spring set PSF ..		X	Test specifications Page	Pos.
300-750 AA478, 480 (AV7774, ABV6526)	..101 011 / 48S174	14 S 3	-	17 S 12	KHD16,0g 20	(1) (40)
300-1150 AA586DR (AAW7765D, ABV8769D) AB618DR, AB632DR	.. 101 046	14 P 17	*	17 S 9	KHD15,0a 20	(2) (41)
300/550-750 AB587R	.. 101 066	14 S 3	15 S 17	17 S 5	18	(3)
300/665-900 AB587R (AAV7631,ABV8531)	EPMS 51S2-4X	14 S 3	15 P 21	17 S 9	18	(4)
300-1050 AAV7687 ARV8532		14 S 3	15 S 15	17 S 19	18	(5)
300-675 AAV7765D		14 S 17	-	-	Variant --D/1 (Instructions)	
300-750 AAV7765D		14 S 17	-			
300-800 AAV7765D		14 S 17	-			
300-825 AAV7765D		14 S 17	-	17 S 9	18	(7)
300-900 AAV7765D		14 S 17	-	17 S 9	Variant ..D/2 (Instructions)	
300-950 AAV7765D		14 S 17	-	17 S 9		
300-950 AAV7765D		14 S 17	*	-	10	(8)
300-1000 AAV7765D		14 S 17	*	-	Variant ..D/3 (Instructions)	
300-1050 AAV7763D		14 S 17	*	-		
300-1000 AAV7765D		14 S 17	*	17 S 9	18	(9)
300-1050 AAV7765D		14 S 17	*	17 S 9	Variant ..D/4 (Instructions)	
300-1075 AAV7765D		14 S 17	*	17 S 9		
300-1150 AAV7765D ABV8769D	AB 586 DR	14 S 17	*	17 S 9		
300-500 AAV7766 ABV8518		14 S 3	-	-	18	(10)
300/425-600 AAV7767 ABV8519	EPMS51S2-4X	14 S 3	15 S 2	17 P 21	19	(11)
300/425-825 AAV7768 ABV8520	EPMS51S2-4X	14 S 3	15 S 20	17 S 14	19	(12)
300/710-1000AAV7769 ABV8521	EPMS51S2-4X	14 S 3	15 S 4	17 S 15	19	(13)
300/540-750 AAV7770 ABV8522	WMS21P36X	14 S 3	15 S 18	17 S 7	19	(14)
300-525 AAV7771,8523		14 S 3	15 S 14	-	19	(15)
300-625 AAV7772,8524		14 S 3	-	17 S 14	19	(16)
300-675 AAV7773,8525		14 S 3	-	17 S 9	19	(17)
300-750 AAV7774,8526	→ A478 (1)	/ (40)			20	(18)

KHD engines F/A 10..12L714

Variable-speed governors RQV (arranged according to V numbers):

Governor designation RQV	PRG 1420.. Spring set PSF .. X additionally				Test specifications Page	Pos.
300-825 AAV7775 ABV8527		14 S 3	15 S 14	17 S 15	19	(19)
300-900 AAV7776 ABV8528		14 S 3	-	17 S 15	20	(20)
300-1000 AAV7777 ABV8529		14 S 3	15 S 15	17 S 14	20	(21)
300-1150 AAV7778 ABV8530		14 S 3	15 S 15	17 S 15	20	(22)
300/530-750 AAV8000	→ (5)				18	(23)
300-500 ABV8518	→ V7766 (10)				18	(24)
300/425-600 ABV8519	→ V7767 (11)				19	(25)
300/635-825 ABV8520	→ V7768 (12)				19	(26)
300/710-1000ABV8521	→ V7769 (13)				19	(27)
300/540-750 ABV8522	→ V7770 (14)				19	(28)
300-525 ABV8522	→ V7771 (15)				19	(29)
300-625 ABV8524	→ V7772 (16)				19	(30)
300-675 ABV8525	→ V7773 (17)				19	(31)
300-750 ABV8526	→ VA478 (1)	→ (40)			20	(32)
500-825 ABV8527	→ V7775 (19)				19	(33)
300-900 ABV8528	→ V7776 (20)				20	(34)
300-1000ABV8529	→ V7777 (21)				20	(35)
300-1150 ABV8530	→ V7778 (22)				20	(36)
300/665-900 ABV8531	→AB587R (4)				18	(37)
300-1050 ABV8532	→V7687 (5)				18	(38)
200/605-750 ABV8746 AB633R,634R	→101 056 → 48 S 23	14 S 1	15 S 4	17 S 14	18 13	
300-1150 ABV8769D	→ AB586DR(9 → 2)				18	(39)
300-750 AA478, 480	→ (1)	14 S 3	-	17 S 12	20	(40)
300-1150 AA586DR AB618DR,632Dr,	→ (2)	14 S 17	*	17 S 9	20	(41)

*EP 1501/179, released as 1 429 619 009

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H16

H16

Notes:

a) The following generally applies to engine-speed limitation at the governor control lever:
Upper nominal speed + 20 min^{-1}.

b) The following applies to variant .. V 7765 D/1 (Item 6):

300-675 : test as per 300-800; Engine-speed limitation n = 690 (CL approx. 60°)
300-750 : test as per 300-800; Engine-speed limitation n = 770 (CL approx. 65°)
300-800 : test as per 300-800; Engine-speed limitation n = 820 (CL approx. 68°)

The following applies to variant .. V 7765 D/2 (Item 7):

300-825 : test as per 300-950; Engine-speed limitation n = 690 (CL approx. 62°)
300-900 : test as per 300-950; Engine-speed limitation n = 770 (CL approx. 65°)
300-950 : test as per 300-950; Engine-speed limitation n = 820 (CL approx. 68°)

The following applies to variant .. V 7765 D/3 (Item 8):

300-950 : test as per 300-1050; Engine-speed limitation n = 690 (CL approx. 63°)
300-1000: test as per 300-1050; Engine-speed limitation n = 770 (CL approx. 65°)
300-1050: test as per 300-1050; Engine-speed limitation n = 820 (CL approx. 68°)

The following applies to variant .. V 7765 D/4 (Item 9):

300-1000: test as per 300-1150; Engine-speed limitation n = 1020 (CL approx. 62°)
300-1050: test as per 300-1150; Engine-speed limitation n = 1070 (CL approx. 64°)
300-1075: test as per 300-1150; Engine-speed limitation n = 1090 (CL approx. 65°)

c) The torque control "Dimension a" for V 7765 D/.. is to be set as follows:
Control-rod travel must increase from upper nominal speed (a = o) and corresponding control-lever deflection (= CL) with decreasing speed and attain the respective "Dimension a" at approx. n = 500.

d) Part designations and part numbers:

PSF 14 S 3 X	1 424 617 015	OSF 17 S 5 X	1 424 615 001
14 P 17	1 424 619 021	17 S 7	1 424 616 034
PSF 15 S 2 X	1 424 630 001	17 S 9	1 424 618 047
15 S 4	1 424 631 005	17 S 12	1 424 618 047
15 S 14	1 424 631 007	17 S 13	1 424 619 026
15 S 15	1 424 634 027	17 S 14	1 424 617 031
15 S 17	1 424 633 005	17 S 15	1 424 619 027
15 S 18	1 424 632 012	17 S 19	1 424 618 048
15 S 20	1 424 631 008	*EP 1501/179	1 424 619 009
15 P 21	1 424 631 009		

RQV (arranged according to V numbers):

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
3.) 300/550-750 AB 587 R (AAV 8000)										
ca.66	750	14,8-17,8	ca.34	520	13,7-15,5	ca.10	250	6,8-8,0	-	-
	770	9,0-14,0		600	8,5-10,0		300	4,5-7,0		
	790	3,5-10,5		650	4,5-7,0		350	3,6-4,0		
	800	0 - 8,0		720	0		550	1,8-4,0		
	840	0					630	0		
4.) 300/665-900 AB 587 R (AAV 7631, ABV 8531)										
ca.66	900	15,0-18,0	ca.34	650	13,0-15,5	ca.10	260	7,0-8,0	-	-
	930	7,0-13,0		750	7,0-10,0		300	5,3-7,5		
	950	1,6- 9,5		800	3,3- 5,5		400	3,6-4,0		
	960	0 - 7,7		860	0		650	2,5-4,0		
	1000	0					760	0		
5.) 300-1050 AAV 7687, ABV 8532										
ca.66	1050	14,8-17,8				ca.10	250	7,0-8,0	-	-
	1100	9,5-14,0					300	5,0-7,5		
	1140	5,0-10,5					360	2,8-4,5		
	1180	0 - 6,8					450	2,1-3,6		
	1250	0					550	1,0-2,2		
							680	0		
6.) 300-800 AAV 7765 D * D/1)									** a = 0,9mm	
ca.68	800	15,0-18,0				ca.10	100	6,7-8,0		
	810	9,0-13,3					250	5,5-7,6		
	840	4,0-10,5					400	3,1-5,2		
	860	0 - 7,4					500	0,9-2,7		
	910	0					580	0		
7.) 300-950 AAV 7765 D * D/2)									** a = 0,9mm	
ca.68	950	13,0-16,3				ca.10	200	6,0-8,0		
	970	10,0-14,2					300	4,8-7,0		
	1000	5,0-11,0					400	3,3-5,2		
	1030	0 - 7,5					500	2,0-3,6		
	1050						660	0		
8.) 300-1050 AAV 7765 D * D/3)									** = 0,9mm	
ca.68	1050	15,0-16,3				ca.10	200	6,4-8,8		
	1070	10,0-14,3					300	5,2-7,4		
	1100	5,0-11,3					450	3,2-4,6		
	1130	0 - 8,0					600	1,1-2,5		
	1200	0					720	0		
9.) 300-1150 AAV 7765 D, ABV 8769 D *(Variant D/4)									** Dimension a = 0,9mm	
ca.68	1150	13,0-16,5				ca.10	200	6,0-8,0		
	1180	9,0-14,0					300	4,8-7,0		
	1220	3,4-10,0					450	2,7-4,0		
	1260	0 - 6,0					600	1,0-2,5		
	1320	0					750	0		
10.)300-500 AAV 7766, ABV 8518										
ca.66	500	15,0-18,0				ca.10	250	7,0-8,0		
	510	11,0-15,5					300	5,2-7,6		
	525	5,0-11,0					350	2,7-5,0		
	540	0 - 6,5					420	0		
	560	0								

RQV (arranged according to V numbers): cont

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
11.) 300/425-600 AAV 7767, ABV 8519										
ca.66	600	14,8-18,2	ca-35	360	14,0-15,5	ca.10	250	7,0-8,0		
	620	9,5-14,5		450	9,0-12,5		300	5,0-7,3		
	650	0 - 8,0		500	5,0- 7,8		350	3,5-4,8		
	680	0		570	0		450	0 -2,0		
							490	0		
12.) 300/635-825 AAV 7768, ABV 8520										
ca.66	825	12,8-16,0	ca.34	620	12,3-15,5	ca.10	260	5,8-8,0		
	850	5,4-11,5		650	10,2-14,5		300	4,8-7,2		
	870	0 - 7,5		700	6,4- 9,5		360	3,6-4,0		
	910	0		750	2,0-4,0		550	3,6-4,0		
				780	0		650	0,6-3,5		
							710	0		
13.) 300/710-1000 AAV 7769, ABV 8521										
ca.66	1000	11,5-14,6	ca.34	660	13,0-15,5	ca.10	230	6,8-8,0		
	1020	7,5-12,4		750	9,0-12,7		250	4,8-7,0		
	1040	3,5- 9,5		800	6,6-9,7		400	3,5-4,0		
	1060	0 - 6,8		850	3,9-6,0		600	3,6-4,0		
	1110	0		920	0		800	0		
14.) 300/540-750 AAV 7770, ABV 8522										
ca.66	750	11,8-15,0	ca.34	500	13,0-15,5	ca.10	270	6,4-8,0		
	770	6,0-11,6		550	10,0-14,0		300	5,0-7,2		
	790	0 - 8,0		600	6,5- 9,5		370	3,6-4,0		
	830	0		650	2,8- 4,8		500	2,6-4,0		
				700	0		610	0		
15.) 300-525 AAV 7771, ABV 8523										
ca.66	525	14,8-18,2				ca.10	280	6,6-8,0		
	550	7,0-11,5					330	4,0-6,5		
	570	0 - 6,0					360	2,6-4,7		
	590	0					400	0,7-2,3		
							430	0		
16.) 300-625 AAV 7772, ABV 8524										
ca.63	625	15,0-17,8				ca.10	280	6,6-8,0		
	650	9,6-14,0					330	4,0-6,5		
	670	5,0-10,8					360	3,1-4,9		
	690	0 - 7,3					400	2,1-3,6		
	730	0					490	0		
17.) 300-675 AAV 7773, ABV 8525										
ca.65	675	14,8-17,8				ca.10	250	6,7-8,1		
	700	10,7-14,2					300	5,0-6,8		
	725	6,0-10,5					350	2,9-4,3		
	750	0 - 6,8					400	0,8-2,2		
	800	0					480	0		
19.)300-825 AAV 7775, ABV 8527										
ca.66	825	14,8-17,8				ca.10	280	6,7-8,0		
	850	11,0-15,0					320	4,7-7,2		
	880	5,8-11,3					360	3,1-5,0		
	910	0 - 7,4					450	1,7-3,2		
	970	0					580	0		

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11

20.) 300-900 AAV 7776, ABV 8528

ca.66	900	15,0-18,0	-	-	-	ca.10	280	6,4-8,0		
	920	12,0-16,0					350	3,2-5,0		
	950	7,5-13,0					450	1,9-3,5		
	1000	0 - 7,0					550	0,3-1,5		
	1060	0					620	0		

21.) 300-1000 AAV 7777, ABV 8529

ca.66	1000	14,8-17,8	-	-	-	ca.10	250	7,0-8,0		
	1030	11,8-15,5					300	5,0-7,0		
	1060	8,0-13,0					400	2,2-3,7		
	1100	3,0- 9,5					500	1,1-2,5		
	1200	0					640	0		

22.) 300-1150 AAV 7778, ABV 8530

ca.66	1150	15,0-18,0	-	-	-	ca.10	300	5,5-8,0		
	1200	9,6-14,2					340	3,5-5,9		
	1240	4,9-10,8					375	3,2-3,8		
	1320	0 - 3,8					500	2,2-3,8		
	1360	0					760	0		

40,) 300-750 AA478,480 (V7774,8526)

ca.66	750	15,0-18,0	-	-	-	ca.10	250	7,2-8,0		
	760	13,0-16,8					350	3,0-5,2		
	800	6,0-12,0					450	1,3-2,5		
	840	0 - 6,0					500	0 -1,0		
	890	0					540	0		

41.) 300-1150 AA478, 480 (V7774, 8526) * a = 0,9 mm

ca.66	1150	13,0-16,5	-	-	-	ca.10	100	6,8-8,0	1130	0
	1180	9,0-14,0					300	4,8-7,0		
	1220	3,4-10,0					400	3,0-5,2	500	0,8-1,0
	1260	0 - 6,0					500	2,2-3,8		
	1320	0					750	0		

250-1000 AV3754D * Dimension a = 1,0 mm

ca.66	1000	15,0-18,0	-	-	-	ca.10	200	6,0-8,0	1000	0
	1060	7,0-12,8					300	3,6-5,2		
	1120	0 - 7,0					450	2,4-3,8	400	0,9-1,1
	1200	0					600	0,4-1,8		
							680	0		

200/750/900 ABV8762

ca.66	900	13,8-18,8	ca.50	750	13,0-15,4	ca.10	180	6,5-8,0	-	ä
	920	8,5-15,0		770	8,0-13,5		250	3,6-5,4		
	950	0 - 9,0		800	1,2- 1,6		300	3,6-4,0		
	990	0		900	0		650	3,6-4,0		
							750	0		

EP/RSV 300-1000 A7 B261D

ca.72	1000	16,0			ca.28	300	6,0	PE 4 A:	
	1040	11,0	without auxiliary			100	19 - 21	400	1,0-1,2
	1080	4,4	spring			300	5,7-6,3	PE 6A:	
	1050	8,0-10,6				420	2,2-4,0	400	1,5-1,7
	1100	1,8- 4,0				550	0 - 1		
	1200	0 - 1	with auxiliary spring						

EP/RSV (arranged according to rotational speed):

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel / Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm		Degree of deflection of control lever	rev/min	Control rod travel mm		Degree of deflection of control lever	rev/min	Control rod travel mm		rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
200-500 A7 A319													
ca.73	1150	12,0						ca.23	200	6,0		1000	0
	1170	7,0	*						100	19 - 21		500	0
	1180	4,6							200	5,7-6,3		250	1,2-1,8
ca.37	500	11,5-12,5							320	2,2-4,5			
	580	5,6- 8,2	**						400	0 - 1			
	700	0 - 1											
200-750 A7 A324, 325,374													
ca.52	750	16,0						ca.25	200	6,0		730	0
	790	12,3	*						100	19 - 21		400	0
	820	5,6							200	5,7-6,3		250	1,2-1,8
	800	8,0-10,6							300	1,7-3,8			
	850	3,6- 7,4	**						400	0 - 1			
	1000	0 - 1											
200-825 A7 A324, 325													
ca.57	825	16,0						ca.25	200	6,0		800	0
	860	11,8	*						100	19 - 21		400	0
	900	5,8							200	5,7-8,3		250	1,2-1,8
	860	10,8-12,8							300	1,5-4,0			
	930	2,0- 4,0	**						450	0-1			
	1050	0 - 1											
200-900 (200-825) A7 A56D													
ca.62	900	16,0						ca.25	200	6,0		850	0
	940	11,5	*						100	19 - 21		700	0,3-0,5
	980	5,5							200	5,7-6,3		400	1,2-1,4
	950	9,0-11,5							350	2,2-3,2			
	1020	1,4- 3,6	**						550	0 - 1			
	1100	0-1											
250-750 A7 A324, 374													
ca.54	750	16,0						ca.26	250	6,0		730	0
	790	11,8	*						100	19 - 21		400	0
	830	6,4							250	5,7-6,3		300	1,2-1,8
	800	9,2-11,4							320	1,2-3,3			
	850	2,8- 5,6	**						450	0 - 1			
	950	0- 1											
250-825 A7 A63D, 64D, (V6946D)													
ca.56	825	16,0						ca.26	250	6,0		800	0
	870	10,6	*						100	19 - 21		650	0,4-0,6
	900	5,2							250	5,7-6,3		400	1,2-1,4
	880	6,2-10,6							350	3,3-4,6			
	960	0,5-2,9	**						550	0 - 1			
	1100	0 - 1											
250-900 (250-825) A7 A56D													
ca.62	900	16,0						ca.27	250	6,0		850	0
	940	11,5	**						100	19 - 21		700	0,5-0,7
	980	6,0							250	5,7-6,3		400	1,2-1,4
	950	9,0-11,4							400	1,6-3,7			
	1000	1,7- 4,6	**						550	0 - 1			
	1100	0- 1											
250-900 A7 A374													
ca.60	900	16,0						ca.25	250	6,0		800	0
	940	11,4	*	without auxiliary spring					100	19 - 21		400	0
	970	6,8							250	5,7-6,3		300	1,2-1,8
	940	10,0-12,0							320	2,6-4,2			
	1000	0,9- 3,9	**						450	0 - 1			
	1100	0 - 1		with auxiliary spring									

Testoil-ISO 4113

EP/RSV (arranged according to rotational speed):

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
300-750 A7 B56D, 186D, 430D										
ca.48	750	16,0				ca.24	300	6,0	730	0
	780	11,5	*				120	19 - 21	650	0,3-0,5
	810	6,2					300	5,7-6,3	500	0,8-1,0
	800	6,0-9,5					400	2,8-4,3		
	850	2,0-3,8	**				550	0 - 1		
	930	0 - 1								
300-900 A7 A56D										
ca.62	900	16,0				ca.28	300	6,0	880	0
	940	11,8	*				100	19 - 21	700	0,5-0,7
	980	5,6					300	5,7-6,3	600	0,9-1,1
	950	8,6-11,6					450	1,0-3,4	400	1,2-1,4
	1000	2,6-4,6	**				600	0 - 1		
	1100	0 - 1								
300-900 A7 A 374										
ca.60	900	16,0				ca.27	300	6,0	880	0
	940	11,0	*				100	19 - 21	450	0
	970	6,4					300	5,7-6,3	340	1,2-1,8
	960	6,0-9,6					360	2,7-4,2		
	1000	2,0-4,0	**				460	0 - 1		
	1100	0 - 1								
300-1000 A7 B224 (V7427)										
ca.68	1000	16,0				ca.28	300	6,0	980	0
	1040	10,8	*				100	19 - 21	450	0
	1070	5,6					300	5,7-6,3	340	1,2-1,8
	1050	7,0-10,4					380	1,4-3,5		
	1100	1,6-3,6	**				480	0 - 1		
	1200	0 - 1								
300-1000 A7 B56D, 430D (V7428D)										
ca.72	1000	16,0				ca.28	300	6,0	980	0
	1040	10,6	*				100	19 - 21	700	0,5-0,7
	1070	5,5					300	5,7-6,3	400	1,2-1,4
	1050	6,5-10,3					400	3,0-4,4		
	1100	2,0- 4,0	**				600	0 - 1		
	1200	0 - 1								
300-1150 A1 B374 (AV6521), (BV 8721)										
ca.66	1150	16,0				ca.28	300	6,0	1130	0
	1200	11,4	*				100	19 - 21	450	0
	1250	5,8					300	5,7-6,3	330	1,2-1,8
	1230	6,0-9,3					350	3,5-4,7		
	1280	1,8-4,0	**				400	0,6-3,0		
	1400	0,3-1,0					500	0 -1.0		
300-1150 A4 B233D (300-1075)										
ca.68	1075	16,0				ca.28	300	6,0	1050	0
	1100	13,5	*				100	19 - 21	900	0,6-0,8
	1150	7,5					300	5,7-6,3	800	0,9-1,1
	1150	5,4-8,8					400	3,2-4,4	400	0,9-1,1
	1200	1,5-4,2	**				600	0 - 1		
	1300	0 - 1								
300-1150 A4 B56D, 469D (V8699D, 8134D, 8249D)										
ca.73	1150	16,0				ca.28	300	6,0	1130	0
	1180	11,8	* without auxiliary spring				100	19 - 21	800	0 - 0,2
	1220	6,0					300	5,7-6,3	600	1,0-1,2
	1200	7,5-10,5					450	1,0-3,5	400	1,2-1,4
	1260	1,5-3,8	** with auxiliary spring				600	0 - 1		
	1350	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 50 PS / 1500 U/min								
750	68,0-70,0	760						
A 53 PS / 1650 U/min								
825	67,0-69,0	840						
A 56 PS / 1800 U/min								
900	66,0-68,0	910						
B 50 PS / 1500 U/min								
750	61,0-63,0	770						
B 60 PS / 1500 U/min								
750	74,0-76,0	770						
B 53 PS / 1650 U/min								
825	60,0-62,0	840						
B 60 PS / 1650 U/min								
825	69,0-71,0	840	600	71,0-73,0				
B 60 PS / 1800 U/min								
900	63,0-65,0	920	600	69,0-71,0				
B 65 PS / 1800 U/min								
900	68,0-70,0	920	600	74,0-76,0				
B 66 PS / 2000 U/min								
1000	64,0-66,0	1020	600	71,0-73,0				
B 72 PS / 2000 U/min								
1000	70,0-72,0	1020	600	77,0-79,0				
B 72 PS / 2150 U/min								
1075	67,0-69,0	1090	600	74,0-76,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 75 PS / 1500 U/min								
750	68,0-70,0	760						
A 79 PS / 1650 U/min								
825	67,0-69,0	840						
A 84 PS / 1800 U/min								
900	66,0-68,0	910						
B 75 PS / 1500 U/min								
750	62,0-64,0	770						
B 82 PS / 1500 U/min								
750	74,0-76,0	770						
B 79 PS / 1650 U/min								
825	61,0-63,0	840						
B 90 PS / 1650 U/min								
825	68,0-70,0	840	600	75,0-77,0				
B 90 PS / 1800 U/min								
900	65,0-67,0	920	600	71,0-73,0				
B 100 PS / 1800 U/min								
900	70,0-72,0	920	600	74,0-76,0				
B 100 PS / 2000 U/min								
1000	61,0-63,9	1020	600	68,0-70,0				
B 110 PS / 2000 U/min								
1000	67,0-69,0	1020	600	73,0-75,0				
B 108 PS / 2150 U/min								
1075	68,0-70,0	1090	600	74,0-76,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 100 PS / 1500 U/min								
750	68,0-70,0	770						
A 105 PS / 1650U/min								
825	67,0-69,0	840						
A 112 PS / 1800 U/min								
900	66,0-68,0	920						
B 100 PS / 1500 U/min								
750	62,0-64,0	770						
B 110 PS / 1500 U/min								
750	74,0-76,0	770						
B 120 PS / 1650 U/min								
825	68,0-70,0	840	600	75,0-77,0				
B 132 PS / 1800 U/min								
900	68,0-70,0	920	600	75,0-77,0				
B 132 PS / 1800 U/min								
1000	61,0-63,0	1020	600	67,0-69,0				
B 145 PS / 2000 U/min								
1000	67,0-69,0	1020	600	74,0-76,0				
B 144 PS / 2150 U/min								
1075	64,0-66,0	1090	600	70,0-72,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 150 PS / 1500 U/min								
750	71,0-73,0	770						
A 158 PS / 1650 U/min								
825	69,0-71,0	840						
A 170 PS / 1800 U/min								
900	68,0-70,0	920						
B 150 PS / 1500 U/min								
750	64,0-66,0	770						
B 165 PS / 1500 U/min								
750	77,0-79,0	770						
B 180 PS / 1650 U/min								
825	71,0-73,0	840	600	78,0-80,0				
B 200 PS / 1800 U/min								
900	71,0-73,0	920	600	78,0-80,0				
B 200 PS / 2000 U/min								
1000	64,0-66,0	1020	600	71,0-73,0				
B 220 PS / 2000 U/min								
1000	70,0-72,0	1020	600	77,0-79,0				
B 216 PS / 2150 U/min								
1075	65,0-67,0	1090	600	72,0-74,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 85 PS / 1500 U/min								
750	76,0-78,0	760	600	78,0-80,0				0,4
A 100 PS / 1800 U/min								
900	76,0-78,0	910	600	80,0-82,0				1,2
B 95 PS / 1500 U/min								
750	80,0-82,0	770	600	86,0-88,0				
B 108 PS / 1500 U/min			Special output for power shovels					
750	89,0-91,0	770						
B 100 PS / 1800 U/min								
900	69,0-71,0	920	600	72,0-74,0				0,4
B 123 PS / 1800 U/min			Special output for power shovels					
900	85,0-87,0	920						
B 115 PS / 2000 U/min								
1000	74,0-76,0	1020	600	84,0-86,0				1,5
B 120 PS / 2000 U/min								
1000	78,0-80,0	1020	600	87,0-89,0				
B 125 PS / 2000 U/min								
1000	83,0-85,0	1020	600	88,0-90,0				1,5
B 128 PS / 2150 U/min								
1075	80,0-82,0	1090	600	91,0-93,0				0,8
B 132 PS / 2300 U/min								
1150	73,0-75,0	1170	600	76,0-78,0				0,8
B 140 PS / 2300 U/min								
1150	78,0-80,0	1170	600	86,0-88,0				

① Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 115 PS / 1500 U/min								
750	76,0-78,0	760	600	78,0-80,0				0,5
A 133 PS / 1800 U/min								
900	76,0-78,0	910	600	80,0-82,0				0,9
B 126 PS / 1500 U/min								
750	80,0-82,0	770	600	88,0-91,0				
B 133 PS / 1500 U/min								
750	85,0-87,0	770	600	84,0-86,0				
B 144 PS / 1500 U/min			**					
750	88,0-90,0	770						
B 133 PS / 1800 U/min								
900	69,0-71,0	920	600	72,0-74,0				0,7
B 154 PS / 1800 U/min								
900	83,0-85,0	920	600	88,0-90,0				1,2
B 164 PS / 1800 U/min			**					
900	87,0-89,0	920						
B 154 PS / 2000 U/min								
1000	74,0-76,0	1020	600	81,0-83,0				1,3
B 167 PS / 2000 U/min								
1000	83,0-85,0	1020	600	88,0-90,0				1,1
B 174 PS / 2000 U/min			**					
1000	85,0-87,0	1020						
B 112 PS / 2150 U/min								
1075	80,0-82,0	1090	600	89,0-91,0				1,5
B 174 PS / 2300 U/min								
1150	73,0-75,0	1170	600	76,0-78,0				1,0
B 186 PS / 2300 U/min								
1150	84,0-86,0	1170	600	92,0-94,0				

** Special output for power shovels

* For RQ governors (with torque control): Position control-rod stop at n = 600; (with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 150 PS / 1500 U/min								
750	81,0-83,0	760						
A 175 PS / 1800 U/min								
900	77,0-79,0	910						
B 158 PS / 1500 U/min								
750	76,0-78,0	770	600	84,0-86,0				
B 183 PS / 1800 U/min								
900	78,0-80,0	920	600	86,0-88,0				
B 192 PS / 1800 U/min								
900	81,0-83,0	920	600	90,0-92,0				
B 200 PS / 2000 U/min								
1000	78,0-80,0	1020	600	86,0-88,0				
B 208 PS / 2000 U/min								
1000	81,0-83,0	1020	600	90,0-92,0				
B 210 PS / 2150 U/min								
1075	78,0-80,0	1090	600	86,0-88,0				
B 220 PS / 2150 U/min								
1075	82,0-84,0	1090	600	91,0-93,0				
B 233 PS / 2300 U/min								
1150	84,0-86,0	1170	600	93,0-95,0				

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* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 180 PS / 1500 U/min								
750	85,0-87,0	760						
A 210 PS / 1800 U/min								
900	83,0-85,0	910						
B 200 PS / 1500 U/min								
750	85,0-87,0	770	600	94,0-96,0				
B 210 PS / 1800 U/min								
900	72,0-74,0	920	600	80,0-82,0				
B 230 PS / 1800 U/min								
900	81,0-83,0	920	600	90,0-92,0				
B 150 PS / 2000 U/min								
1000	51,0-53,0							
B 230 PS / 2000 U/min								
1000	72,0-74,0	1020	600	80,0-82,0				
B 250 PS / 2000 U/min								
1000	80,0-82,0	1020	600	89,0-91,0				
B 250 PS / 2150 U/min								
1075	75,0-77,0	1090	600	83,0-85,0				
B 264 PS / 2150 U/min								
1075	80,0-82,0	1090	600	89,0-91,0				
B 260 PS / 2300 U/min								
1150	75,0-77,0	1170	600	83,0-85,0				
B 280 PS / 2300 U/min								
1150	82,0-84,0	1170	600	91,0-93,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

J6

En
J6

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
A 210 PS / 1500 U/min								
750	92,0-94,0	760						
A 250 PS / 1800 U/min								
900	93,0-95,0	910						
B 230 PS / 1500 U/min								
750	92,0-94,0	770	600	102,0-104,0				
B 265 PS / 1800 U/min								
900	89,0-91,0	920	600	98,0-100,0				
B 285 PS / 2000 U/min								
1000	88,0-90,0	1020	600	97,0-99,0				
B 300 PS / 2150 U/min								
1075	87,0-89,0	1090	600	96,,0-98,0				
B 315 PS / 2300 U/min								
1150	87,0-89,0	1170	600	96,0-98,0				

(1)

Testoil-ISO 4113

* For RQ governors (with torque control): Position control-rod stop at n =600;
(with no torque control): Control-rod stop at speed corresponding to Column 1.

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
RQ 325/1000 ABV 8617D, 8919D											
950	14,0-14,6	950	14,3	1000 1020 1050 1090	13,8-14,2 6,5-12,0 0 - 7 0	510	0	250 300 350 410	7,0-8,1 4,8-7,3 2,0-4,6 0	400 700 950	15,8-16,8 14,9-15,2 14,2-14,5

Torque-control travel on flyweight assembly dimension a: 0,65 mm

Speed regulation At: 1 mm less control rod travel

Cam sequence and angular cam spacing.

PE 4 A .. LS 23, 39, 59, 83, 84, 153,1036,1052 (S 83,84,1052- Cyl. 1 u. 4 **)

normal = 1 - 3 - 4 - 2
0 - 90-180-270°

PE 6 A .. LS 23, 39, 59, 83, 84, 153, 1036, 1052, (S 83, 84, 1052 = Cyl. 4-6 **)

normal = 1 - 5 - 3 - 6 - 2 - 4
0 - 60-120-180-240-300°

PE 6 A .. RS 77, 154, 1021m 1035, 1169

1 - 6 - 3 - 5 - 2 - 4
0 - 75-120-195-240-315°

PE 8 A .. RS 42, 77, 100, 1022, 1099, 1170 (S 100 = Cyl. 1-4 **)

1 - 8 - 4 - 5 - 7 - 3 - 6 - 2
0 -45- 90 -135-180-225-270-315°

PE 10 A .. RS 1115, 1137, (S 1115= Cyl. 11-12 ** - PE 12 A!)

1 - 10 - 5 - 7 - 2 - 8 - 3 - 9 - 4 - 6
0 - 27 - 72- 99-144-171-216-243-288-315°

PE 12 A .. RS 169, 178, 198, 466, 490, 527, 1100 1126, 2087 (S 198, 527, 1126 = Cyl. 1-6 **)

1 - 8 - 5 - 10 - 3 - 7 - 6 - 11 - 2 - 9 - 4 - 12
0 -15 -60- 75 -120-135-180-195-240-255-300-315°

** dummy

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 BÜS 7,4 b
Edition 6.69

En

PE 6 A 90 C 320 RS2226*
RQ 250/1200 AB637D (1)
RQV250-1200 AB648 (2)

PE 6 A 90 C 321 RS2269
RQ 250/1200 AB637D (3)
RQV250-750/1200 AB699 (4)
(V 9738)

supersedes
company. 9.67
engine. Büssing S 7 D (150 PS)

* Note: → 0 401 2011-, 2068

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC) 2,35 + 0,1 mm (→ UT) S 2226
2,40 + 0,1 mm (→ UT) S 2269

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery S 2226 cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery S 2269 cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	9	6,3 - 7,3	0,4		4,9 - 5,5	
1000	6	2,8 - 3,6			1,3 - 2,1	
	15	13,3 -14,6			12,3 -13,1	
200	9	4,3 - 5,3			0,1 - 0,9(RW6)	

Adjust the fuel delivery from each outlet according to the values in ☐.

Testoil-ISO 4113

B. Governor Settings

RQ ... AB 637 DR (1,3)

Checking of slider PRG check ①		Full-load speed regulation Setting point		Test specifications ④		Idle speed regulation Setting point		Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
500	15,7-16,3	550	16,0	1220	15,7-16,0	520	0	100	6,7-8,1	-	-
				1250	7,5-14,4			200	5,3-7,2		
				1300	0 - 8,5			300	2,6-4,8		
Breakaway not before n = 1220				1360	0						

Torque-control travel on flyweight assembly dimension a = mm Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever ② Test oil temp. 40°C (104°F)		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1000 strokes / Control rod travel mm 7
1200	86,5 - 88,5	500	800	78,0-82,0	100	ca. 18 mm RW
1200	79,0 - 81,0	600	800	77,0-80,0	100	ca. 18 mm RW
1200	86,5 - 88,5	1220	800	78,0-82,0	100	17,7-18,3
1200	79,0 - 81,0	1220	800	74,5-77,5	100	18,2-18,8
				To be specified by customer		

./.

Checking values in brackets

J9

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rodtravel mm	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm	(4)	Degree of deflection of control lever	rev/min	Control rod travel mm	(3)	(1) rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
250-1200 AB 648 (2) ca.66	1200 1250 1300 1360 1450	15,0-17,6 10,5-14,6 6,0-11,2 0 - 7,0 0		-	-	-		ca.10 (3a)	150 250 400 600 730	7,0-8,0 4,5-6,4 2,0-3,6 0,5-1,7 0			

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery Idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm	(4)	Degree of deflection of control lever	rev/min	Control rod travel mm	(3)	(1) rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
250-750/1200 ca.66	1200 1250 1350 1440	AB 699 (V9738) (4) 13,8-16,2 9,1-13,3 0 - 6,5 0		ca.52	800 900 1000 1100 1240	12,5-14,7 7,1- 9,6 1,0- 3,3 0,4- 0,8 0		ca.10 (3a)	100 250 400 600	6,9-8,0 5,5-6,9 2,4-4,0 0			

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery Idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ② and Governors

40

VDT-WPP 001/4 KHD 10,0 a

En

PE 8 A 85 C 410 LS 2212

RQ 250/1300 AB 575 DL
RQ 250/1300 AB 646 DL
RQV 250-1150 AB 613 DL

supersedes -
company: KHD
engine F 8 L 312

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,4			
	6	1,3 - 2,1				
	15	12,3 -13,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

RQ 250/1300 AB 575 DL

Checking of slider PRG check ①		Full-load speed regulation Setting point		Full-load speed regulation Test specifications ④		Idle speed regulation Setting point		Idle speed regulation Test specifications ⑤		Torque control ③	
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod travel mm 12
550	15,7-16,3	550	16,0	1300	13,6-14,0	500	0	100	6,2-8,1	750	15,8-16,0
				1330	7,0-12,3			200	4,8-6,8	900	15,1-15,4
				1350	0 - 9,5			300	2,0-4,5		
				1410	0			400	0	1100	14,0-14,3

Torque-control travel on flyweight assembly dimension a = 0,65 mm

Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F) ②		Control rod stop ③a	Fuel delivery characteristics ③b		Starting fuel delivery Idle speed ⑥	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1000 strokes Control rod travel mm 7
1300	61,5-63,5	500	1100	59,0-62,0		
			800	63,0-67,0		
			500	57,5-61,5		
1300	61,5-63,5	500	1100	57,5-60,5		
			800	58,5-62,5		
			500	58,0-62,0		
1150	61,5-63,5	1170	800	63,0-67,0		
			500	58,0-62,0		

Checking values in brackets

J11

B. Governor Settings

RQV 250-1150 AB 613 DL

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
66±1,5	1150	15,0-18,0	-	-	-	10±1,5	200	6,3-8,0	1150	0
	1200	10,0-14,0					300	3,0-5,0	900	0,2-0,4
	1260	3,0- 9,4					450	2,2-3,8	700	0,4-0,6
	1370	0					600	0,8-2,1	500	0,4-0,6
							740	0		

Torque control travel a = 0,6 mm

B. Governor Settings

RQ 250/1300 AB 646 DL

(2)

Checking of slider PRG check (1)		Full load speed regulation Setting point		Full load speed regulation Test specifications (4)		Idle speed regulation Setting point		Idle speed regulation Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
550	15,6-16,4	550	16,0	1300	13,6-14,1	510	0	100	6,3-8,1	600	15,9-16,0
				1330	5,5-12,0			200	4,8-5,9	900	15,0-15,4
				1360	0 - 7,8			300	2,1-4,5		
				1410	0			410	0	1100	14,0-14,4

Torque-control travel on flyweight assembly dimension a = 0,6 mm

Speed regulation At 1 mm less control rod travel

Test Specifications Fuel Injection Pumps and Governors

VDT-WPP 001/4 KHD 3,4f
Edition 2.69

En

PES 3 A 70 C 410 RS 1116
PES 3/4 A .. RS 1117
PES 4 A .. RS1148,,1186
PES 3/4/6A.. RS 1185

EP/RSV 300-1150 A8 B188D (1)
300-1150 A8 B235D (2)
300-1100 A1 B408D (3)
300-1000 A8 B422D (4)
300-1400 A5 B456D (5)

supersedes 3,4f (9.64)
company 3,4g (11.66)
engine KHD F 3 4 6 L 812

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

EP/RS 250/1400 A0 B457D (6)

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0,4			
	6	1,2 - 2,3				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

300-1150 A 8 B 188 D (1)

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	5	6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.53	1150	10,0				ca.21	300	5,5	1130	0
	1170	8,0	*				100	19 - 21		
	1190	5,8					300	5,2-5,8	1000	0,1-0,3
	1150	9,6-10,4					400	0,4-2,5	900	0,5-0,7
	1200	3,7- 5,5	**				450	0 -1,0	400	0,5-0,7
	1300	0,3- 1,0								
300-1150 A 8 B 235 D (2)										
ca.58	1150	16,0				ca.22	300	5,5	1130	0
	1200	12,0	*				150	19 - 21		
	1250	6,8					300	5,2-5,7	900	0,5-0,7
	1250	4,4-8,4					350	3,0-4,2	700	1,1-1,3
	1300	1,0-3,8	**				500	0 - 1		
	1400	0 - 1							400	1,5-1,7
300-1100 A 1 B 408 D (3)										
ca.60	1100	16				ca.26	300	6,0	1080	0
	1140	12	*				100	19 - 21		
	1180	7					300	5,7-6,3	700	0,3-0,5
	1180	5 - 8,5					450	1,4-3,6	500	0,6-0,8
	1240	1,2-3,8	**				600	0 - 1		
	1350	0 - 1								
300-1000 A 8 B 422 D (4)										
ca.52	1000	10				ca.26	300	5,0	980	0
	1030	7,5	*	without auxiliary spring			100	19 - 21		
	1060	4,8					300	4,8-5,2	700	0,4-0,6
	1000	9,5-10,5					450	2 - 3,5	400	0,7-0,9
	1060	4,0- 5,6	**	with auxiliary spring			650	0 - 1		
	1250	0 - 1								

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J13

The numbers denote the sequence of the tests

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Control-lever deflection in degrees	Lower rated speed rev/min	Lower rated speed Control rod travel mm	(3) Torque control rev/min	Torque control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
300-1400	A 5 B 456 D		(5)			ca.24	300	6,0		
ca.64	1400	12,0					100	19 - 21	1380	0
	1430	9,4	without auxiliary spring				300	5,7-6,3		
	1470	5,8					400	2,0-3,6	1200	0,5-0,7
	1430	8,8-10,0					550	0 - 1	900	1,3-1,5
(2a)	1470	4,8- 6,6	with auxiliary spring						400	1,4-1,6
	1600	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F) rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ...) rev/min	(3a) Fuel delivery characteristics rev/min	cm³/1000 strokes	Starting fuel delivery Idle rev/min	cm³/1000 strokes	(5) (4a) Idle stop rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1130	41,5-43,0	1160	600	43,0-46,0			3/39	-(3)
1050	42,5-44,5	1080	600	40,0-43,0			3/35	-(1)
1130	39,5-41,5	1160	600	45,0-48,0			4/50	-(2)
1080	41,5-43,5	1110	600	43,0-46,0			4/49	-(3)
1130	42,2-44,2	1160	600	40,0-43,0			4/52	-(1)
980	42,5-45,5	1010	500	43,0-46,0			4/49	-(4)
1130	42,5-44,5	1160	600	40,0-43,0			6/75	-(1)

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			(4) Control-lever deflection in degrees	Lower rated speed rev/min	Lower rated speed Control rod travel mm	(3) Torque control rev/min	Torque control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
EP/RS 250/1400	A 0 B 457	D	(6)			Ca.40	250	6,0	1380	0
ca.72	1400	9,0					100	10 - 21		
	1400	8,8-9,6					250	5,7-6,3	900	1,4
	1450	4,2-5,2					400	2,0-3,7	500	1,7
(2a)	1500	1,7-3,3					550	0 - 1		
	1600	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F) rev/min	cm³/1000 strokes	(6) Rotational-speed limitat. Note: changed to ...) rev/min	(3a) Fuel delivery characteristics rev/min	cm³/1000 strokes	Starting fuel delivery Idle rev/min	cm³/1000 strokes	(5) (4a) Idle stop rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1380	41,7-43,7	1420	800	45,5-48,5			6/90	-(5/6)
			500	42,5-45,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

VDT-WPP 001/4 KHD 3,4 b
Edition 12.71

(1A)

En

PE 3/4/6 A 70 B/C 410 RS 321, 329 424,1043 1117,1185 301, 1096* 321, 1043*
EP/RSV 300-1150 A8/312 D ..A312 D ..B312D,597 D ..85 D ..61 D, 85D

supersedes 9.66
company KHD
engine F 3 L 712 - 812 4 6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

"D"..1043, 1117, 1185 ..B312D,597D

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed "B", "C" rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque control valve) mm 6
	12	6,5-7,0	0,4	12	5,5-6,0	
1000	6	1,2-1,9		9	3,0-3,8	
	18	10,9-11,9				
200	6	0,7-1,5		9	1,8-2,6	
1000	9	3,0-3,8				
	12	5,5-6,0	0,4			
200	9	1,8-2,6				

"D"

Testoil-ISO 4113

Adjust the fuel delivery from each outlet according to the values in ▭

B. Governor Settings

..A8 .. 312 D, 597 D

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed: 4	5	6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.53	1150	10,0				ca.21	300	5,5	1130	0
	1180	7,0	without auxiliary spring				100	19 - 21		
	1200	4,8					300	5,2-5,7	900	0,5-0,7
	1180	5,8-7,6					400	0,4-2,6	400	0,5-0,7
(2a)	1220	2,0-4,0	with auxiliary spring				460	0 - 1		
	1280	0 - 1								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle: rev/min 6	cm³/1000 strokes 7	(5) (4a) Idle stop: rev/min 8	Control rod travel mm 9
1130	41,0 - 43,0	1170	900	43,0-46,0			300	5,5
			500	40,5-44,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH
Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

The numbers denote the sequence of the tests

B. Governor Settings

A8$^{A}_{B}$ 61D, 85D

① Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			④ Control-lever deflection in degrees	Lower rated speed: rev/min	Lower rated speed: Control rod travel mm	③ Torque control: rev/min	③ Torque control: Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.53	1150	10,0	without auxiliary spring			ca.21	300	5,5	1130	0
	1180	7,0					100	19 - 21		
	1220	2,0					300	5,2-5,7	900	0,2-0,4
	1180	5,0-8,0					350	3,0-4,0	800	0,6-0,8
②a	1220	1,5-3,5	with auxiliary spring				470	0 - 1		
	1300	0 - 1							600	0,6-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

②b Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	⑥ Rotational-speed limitat. Note: changed to ...) rev/min	③a Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle ⑤: rev/min	cm³/1000 strokes	④a Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1130	41,0-43,0	1170	900	43,0-46,0				
			500	39,5-43,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

① Upper rated speed rev/min: Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Intermediate rated speed			④ Control-lever deflection in degrees	Lower rated speed: rev/min	Lower rated speed: Control rod travel mm	③ Torque control: rev/min	③ Torque control: Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
②a										

C. Settings for Fuel Injection Pump with Fitted Governor

②b Full-load stop, Test oil temp. 40°C (104°F): rev/min	cm³/1000 strokes	⑥ Rotational-speed limitat. Note: changed to ...) rev/min	③a Fuel delivery characteristics: rev/min	cm³/1000 strokes	Starting fuel delivery Idle ⑤: rev/min	cm³/1000 strokes	④a Idle stop: rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors (1A)

VDT-WPP 001/4 KHD 5,1 c

Edition 1.68

En

PES 6 A 75 C 410/3 RS 1197 EP/RS 275/1400 A0 B478 DL
(RS1199) EP/RSV 325-1400 A8B471DL
PES 6 A 75 C 410/3 RS 1198 EP/RSV 325-1150 A8B474DL*
(V 8397) EP/RSV 325-1150 A8B260DL*
EP/RSV 325-1400 A8B252DL

supersedes

company KHD

engine F 6 L 812 D
(100 PS)
87 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

See page 4

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery S 1197 cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery S 1198 cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,7		6	1,9 - 2,6	
	12	6,2 - 6,6	0,3	9	4,7 - 5,1	
	15	8,5 - 9,5		15	10,4 -11,5	
200	9	1,9 - 2,8		6	0,9 - 1,8	

Adjust the fuel delivery from each outlet according to the values in ▭

Testoil-ISO 4113

B. Governor Settings

EP/RS 275/1400 A0 B 478 DL

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.72	1400	8,9		ca.45	285	5,9	1380	0
	1400	8,8-9,6			100	20 - 21	1000	0,1-0,3
	1420	6,4-7,8			285	5,6-6,2		
	1450	4,3-5,2			400	3,2-4,5	500	0,8-1,0
(2a)	1500	1,7-3,3			500	0,3-2,6		
	1600	0 - 1			600	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
1380	52,0 - 54,0	1400	800	47,0 - 50,0			325	5,5 (471DL)

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Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

J21

J21

The numbers denote the sequence of the tests

B. Governor Settings (F 6 L 812 D)

(1) Upper rated speed rev/min			Intermediate rated speed			(4) - Lower rated speed			(3) Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
EP/RSV 325-1400 A8 B 471 DL										
ca.65	1400	10,0				ca.21	325	5,5	1380	0
	1430	7,4	*				200	19 - 21	1000	0,4-0,6
	1450	4,7					325	5,2-5,8	800	0,9-1,1
	1400	9,8-10,2					500	1,4-3,6	500	1,2-1,4
	1440	3,4- 6,7	**				700	0 - 1		
	1600	0 - 1								
EP/RSV 325-1150 A8 B 474 DL*										
ca.53	1150	10,0				ca.21	325	5,5	1130	0
	1170	8,0	*				200	19 - 21	800	0,5-0,7
	1190	5,8					325	5,2-5,8	500	0,6-0,8
	1150	9,7-10,3					400	1,5-3,2		
	1200	4,0- 5,6	**				500	0 - 1		
	1300	0 - 1								
EP/RSV 325-1400 A8 B 252 DL										
ca.65	1400	10,0				ca.21	325	5,5	1380	0
	1430	7,4	*				200	19 - 21		
	1450	4,7					325	5,2-5,8	1000	0,5-0,7
	1400	9,8-10,2					500	1,4-3,6	500	1,4-1,6
	1440	3,4- 6,7	**				700	0 - 1		
	1600	0 - 1								
EP/RSV 325-1150 A8 B 260 DL*										
ca.53	1150	10,0				ca.21	325	5,5	1130	0
	1170	8,0	* without auxiliary spring				200	19 - 21		
	1190	5,8					325	5,2-5,8	800	0,5-0,7
	1150	9,7-10,3					400	1,5-3,2	500	0,6-0,8
	1200	4,0- 5,6	** with auxiliary spring				500	0 - 1		
	1300	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp. 40°C (104°F)		(6) Rotational-speed limitat.	(3a) Fuel delivery characteristics		Starting fuel delivery (5) Idle		(4a) Idle stop	
rev/min	cm³/1000 strokes	Note: changed to ...) rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1130	48,0 - 50,0	1160	775	48,0 - 51,0			325	5,5
							(→ 474DL)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
F 96 PS / 2650 U/min								
1325	50,5 - 52,5	1340	725	45,5 - 48,5				1,2
B 93 PS / 2800 U/min								
1400	49,5 - 51,5	1420	725	44,0 - 47,0				1,2
F 92 PS / 2500 U/min								
1250	48,0 - 50,0	1270	725	44,5 - 47,5				1,2
B 90 PS / 2650 U/min								
1325	47,5 - 49,5	1340	725	42,5 - 45,5				1,2
B 87 PS / 2500 U/min								
1250	46,0 - 48,0	1270	725	41,0 - 44,0				1,2
B 84 PS / 2300 U/min								
1150	44,5 - 46,5	1170	775	45,0 - 48,0				0,8
B 83 PS / 2500 U/min								
1250	44,5 - 46,5	1270	725	39,0 - 42,0				1,2
B 80 PS / 2300 U/min								
1150	40,5 - 42,5	1170	775	41,0 - 44,0				0,8
B 80 PS / 2150 U/min								
1075	41,5 - 43,5	1090	775	44,5 - 47,5				0,7
B 77 PS / 2150 U/min								
1075	39,5 - 41,5	1090	775	41,5 - 44,5				0,7
B 74 PS / 2300 U/min								
1150	37,5 - 39,5	1170	775	36,5 - 39,5				0,8
B 74 PS / 2000 U/min								
1000	40,0 - 42,0	1020	775	42,0 - 45,0				0,5
B 72 PS / 2150 U/min								
1075	37,5 - 39,5	1090	775	37,5 - 40,5				0,7
B 68 PS / 2000 U/min								
1000	35,5 - 37,5	1020	775	36,5 - 39,5				0,5

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
B 66 PS /1800 U/min								
900	38,5-40,5	910	775	39,5 - 42,5				0,35
B 62 PS / 1800 U/min								
900	35,5-37,5	910	775	36,0-39,0				0,35
B 56 PS / 1500 U/min								
750	38,0-40,0	760	650	38,0-41,0				0,1
B 52 PS / 1500 U/min								
750	35,0-37,0	760	650	35,5-38,5				0,1
A 74 PS / 2300 U/min								
1140	41,5-43,5	1150	-	-				-
A 72 PS / 2150 U/min								
1065	41,5-43,5	1075	-	-				-
A 68 PS / 2000 U/min								
990	40,5-42,5	1000	-	-				-
A 62 PS / 1800 U/min								
890	40,5-42,5	900	-	-				-
A 52 PS / 1500 U/min								
740	39,5-41,5	750	-	-				-

Note:

Engine output (F, B, A) and speed are indicated on the engine nameplate; adjustment data can be taken accordingly from Section C.

These values have been compiled in accordance with documentation and with the approval of KHD;

Standard setting, pages 1 and 2;
throttled engines, pages 3 and 4.

When setting the reduced full-load deliveries, the dimension a (pages 3 and 4, Section C, Column 8) is to be viewed merely as a pre-setting; the dominant factor in such cases is the delivery as per Columns 2 and 5 with re-use being made of the spring retainer adjusted/readjusted by KHD.

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 KHD 3,4 h
2. Edition

En

PES 4 A 75 C 410/3	RS 1183	EP/RS 275/1400 A0B478DL	supersedes	1.68
	RS 1194	EP/RSV325-1400 A8B471DL	company	K H D
PES 4 A 75 C 410/3	RS 1185	325-1400 A8B252DL	engine	F 4 L 812 D (67 PS)
	RS 1117	325-1150 A8B260DL		(58 PS)

--D--

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

See page 4

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 - 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery "C" cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery "D" cm³/100 strokes 3	Spring pre tensioning (torque-control valve) mm 6
1000	12	6,2 - 6,6	0,3	12	5,2 - 5,6	
	9	3,0 - 3,7		9	2,7 - 3,5	
	15	8,5 - 9,5		-	-	
200	9	1,9 - 2,8		9	0,7 - 1,4	

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

EP/RS 275/1400 A0B478DL

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4	5	6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.72	1400	8,9	-	-	-	ca.45	285	5,9	1380	
	1400	8,8-9,6					100	20 - 21		
	1420	6,4-7,8					285	5,6-6,2	1000	0,1-0,3
	1450	4,3-5,2					400	3,2-4,5	500	0,8-1,0
	1500	1,7-3,3					500	0,3-2,6		
(2a)	1600	0,3-1,0					600	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104 F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
1380	52,0-54,0	1400	900	47,0-50,0	325	5,5mm RW		
1130	46,0-48,0	1160	900	42,5-45,5	325	5,5 (474DL)		

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Checking values in brackets ± 0,5 cm³

* 1 mm less control rod travel than col 2

12.74

K1

K1

The numbers denote the sequence of the tests

B. Governor Settings

(F 4 L 812 D)

① Upper rated speed rev/min			Intermediate rated speed			④ Lower rated speed			③ Torque control	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control-lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
EP/RSV 325-1400 A8 B 471 DL										
ca.65	1400	10,0				ca.21	325	5,5	1380	0
	1430	7,4	*				200	19 - 21	1000	0,4-0,6
	1450	4,7					325	5,2-5,8	800	0,9-1,1
	1400	9,8-10,2					500	1,4-3,6	500	1,2-1,4
	1440	3,4 -6,7	**				700	0 - 1		
	1600	0 - 1								
EP/RSV 325-1150 A 8 B 474 DL*										
ca.53	1150	10,0				ca.21	325	5,5	1130	0
	1170	8,0	*				200	19 - 21	800	0,5-0,7
	1190	5,8					325	5,2-5,8	500	0,6-0,8
	1150	9,7-10,3					400	1,5-3,2		
	1200	4,0- 5,6	**				500	0 - 1		
	1300	0 - 1								
EP/RSV 325-1400 A8 B 252 DL										
ca.65	1400	10,0				ca.21	325	5,5	1380	0
	1430	7,4	*				200	19 - 21		
	1450	4,7					325	5,2-5,8	1000	0,5-0,7
	1400	9,8-10,2					500	1,4-3,6	500	1,4-1,6
	1440	3,4- 6,7	**				700	0 - 1		
	1600	0 - 1								
EP/RSV 325-1150 A8 B 260 DL*										
ca.53	1150	10,0				ca.21	325	5,5	1130	0
	1170	8,0	* without auxiliary spring				200	19 - 21		
	1190	5,8					325	5,2-5,8	800	0,5-0,7
	1150	9,7-10,3					400	1,5-3,2	500	0,6-0,8
	1200	4,0- 5,6	** with auxiliary spring				500	0 - 1		
	1300	0 - 1								

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
F 64 PS / 2650 U/min								
1325	50,0-52,0	1340	750	46,0-49,0				1,1
B 62 PS / 2800 U/min								
1400	48,5-50,5	1420	750	47,0-50,0				1,1
F 61 PS / 2500 U/min								
1250	48,5-50,5	1270	750	45,5-48,5				1,1
B 60 PS / 2650 U/min								
1325	47,5-49,5	1340	750	42,5-45,5				1,1
B 58 PS / 2500 U/min								
1250	46,0-48,0	1270	750	45,5-48,5				1,1
B 56 PS / 2300 U/min								
1150	45,5-47,5	1170	800	41,5-44,5				0,3
B 55 PS / 2500 U/min								
1250	44,0-46,0	1270	750	39,5-42,5				1,1
B 53 PS / 2300 U/min								
1150	44,0-46,0	1170	800	40,5-43,5				0,3
B 53 PS / 2150 U/min								
1075	44,0-46,0	1090	800	41,0-44,0				0,3
B 51 PS / 2150 U/min								
1075	42,5-44,5	1090	800	40,0-43,0				0,3
B 49 PS / 2300 U/min								
1150	41,5-43,5	1170	800	38,5-41,5				0,3
B 49 PS / 2000 U/min								
1000	42,5-44,5	1020	800	40,5-43,5				0,3
B 48 PS / 2150 U/min								
1075	41,5-43,5	1090	800	38,5-41,5				0,3
B 45 PS / 2000 U/min								
Checking values in brackets 1000	40,0-42,0	1020	800	38,5-41,5				0,3

* 1 mm less control rod travel than col 2

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Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

engine power Full-load delivery Control-rod stop Test oil temp 40°C (104°F)		Rotational-speed limitation	Fuel delivery characteristics		Starting fuel delivery Idle switching point		Intermediate rotational speed Torque-control travel	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
B 44 PS / 1800 U/min								
900	41,0-43,0	910	800	40,5-43,5				0,2
B 41,5 PS / 1800 U/min								
900	39,0-41,0	910	800	38,5-41,5				0,2
B 37 PS / 1500 U/min								
750	40,5-42,5	760						0,1
B 35 PS / 1500 U/min								
750	39,0-41,0	760						0,1
A 49 PS / 2300 U/min								
1140	44,5-46,5	1150	-	-				-
A 48 PS / 2150 U/min								
1065	44,0-46,0	1075	-					-
A 45 PS / 2000 U/min								
990	42,5-44,5	1000	-	-				-
A 41,5 PS / 1800 U/min								
890	42,0-44,0	900	-	-				-
A 35 PS / 1500 U/min								
740	41,5-43,5	750	-	-				-

Note:

Engine output (F, B, A) and speed are indicated on the engine nameplate; adjustment data can be taken accordingly from Section C.

These values have been compiled in accordance with documentation and with the approval of KHD;

Standard setting, pages 1 and 2;
throttled engines, pages 3 and 4.

When setting the reduced full-load deliveries, the dimension a (pages 3 and 4, Section C, Column 8) is to be viewed merely as a pre-setting; the dominant factor in such cases is the delivery as per Columns 2 and 5 with re-use being made of the spring retainer adjusted/readjusted by KHD.

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps ② and Governors

VDT-WPP 001/4 KHD 1 b
1. Edition
En

PE 6 A 85 C 410 LS 2211 (1) RQ..
PE 8 A 85 C 410 LS 2212 (2) RQV..
PE 10A 85/90 C 610/4 LS2243 (3-4) RQV .. K ..
PE 12A 85/90 C 610 LS (5-6) EP/RSV
..D..

supersedes 8,5a-b, 11,3a
company (10.69,6.69)
engine K H D
F 6 L 413 (1)
F 8 L 413 (2)
F 10L 413 (3)
F 10L 413 L (4)
F 12L 413 (5)
BF12L 413 (6)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5 + 0,1 mm (from BDC) For all plunger-and-barrel assembly diameters

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery 5,5 Ø cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery 9 Ø cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5		9	5,8 - 6,3	
	6	1,3 - 2,1		6	2,5 - 3,4	
	15	12,3 -13,1		15	13,6 -14,8	
200	9	3,9 - 4,4		9	3,2 - 4,1	

Adjust the fuel delivery from each outlet according to the values in [ ]

Cam sequence and angular cam spacing.

6 Cyl. 1 - 6 - 5 - 4 - 3 - 2 - 1 (1)
0 - 75-120-195-240-315-360°

8 Cyl. 1 - 8 - 7 - 2 - 6 - 5 - 4 - 3 - 1 (2)
0 - 45- 90-135-180-225-270-315-360°

10 Cyl. 1 - 10 - 9 - 4 - 3 - 6 - 5 - 7 - 2 - 1 (3-4)
0 - 27 -72 -99 -144-171-216-243-288-315-360°

12 Cyl. 1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12 - 1 (5-6)
0 -15 - 60- 75-120-135-180-195-240-255-300-315-360°

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Pay attention to information on VDT-BMP 001/63!

RQ and RQV..governor - arranged according to code numbers - KHD-engines F..L.. 413

	Designation	P R G		V-numbers	see
1.	RQ 250/1400 AB575DL	1 428 110	054	V8089D	
	250/1325		119	V9502D (9538D)	
2.	RQV300-1150 AB661DL	1 428 101	046	V9099D	
	250-1250		063	V9100D	
3.	RQ 250/1400 AB677DL	1 428 110	111	V9389D	
	250/1325		114	V9500D	
	250/1250		121	V9501D	
	250/1200		120	V9600D	
4.	RQV 300-1400 AB688DL	1 428 101	114	V10576D	
	300-1325		091)	= V9532D	
	300-1300		091)		
	300-1250		127		
	300-1200		090	V9531D	
	300-1150		115		
	300-1100		074	V9530D	
	300-900		108	V9528D	
	300-800		071	V9527D	
5.	RQV 300/570-750 AB690DL	1 428 101	073	V9525D	
6.	RQ 250/1325 AB697DL	1 428 110	124	-	
7.	RQV250-1200 AB701DL	1 428 101	079	V9689D (9831D)	
8.	RQ250/1200 AB702DL	1 428 110	126	V9828D	
9.	RQ250/1250 AB709DL	1 428 110	127	V9896D (9871) (9895D)	
10.	RQ250/1250 AB714DL	1 428 110	133	V9878D	
11.	RQ250/1250 AB715DL	1 428 110	134	V9879D	
12.	RQ250/1325 AB716DL	1 428 110	135		
13.	RQ250/1150 AB717DL	1 428 110	136	V9536D	
14.	RQV250-1325 AB718DL	1 428 101	086	V9505D (10014D, 10376D, 11735D)	
15.	RQ 250/1250 AB730DL	1 428 110	148	V9565D	
	250/1150		136	V9564D	Pos.13
	250/1075		137	V9563D	
16.	RQV 250-1250 AB731DL	1 428 101	088	V9506D (V10698 D, 11779D)	
	250-1325		086	(V10221D)	Pos.14
17.	RQ 250/1325 AB734DL	1 428 110	119	V9566D	Pos. 1
	250/1250		157	V10605D	
18.	RQ 250/1075 AB742DL	1 428 110	142	V10089D	
	250/1050		147	V10088D	
19.	RQV 250-1200 AB744DL	1 428 101	079	V10141D	Pos.7

RQ and RQV..governor - arranged according to code numbers - KHD-engines F..L.. 413 (cont)

Designation	P R G	V-numbers	see
20. RQ 250/1075 AB755DL	1 428 110 145	V9535D	
21. RQV300-1000 AB763DL	1 428 101 098	V9529D	
22. RQV250-985/1325 AB783DL	1 428 101 109	V10021D (V11184D)	
250-850/1200	119	V10943D	
23. RQV250-1325 AB788DL	1 428 101 086	V10508D	Pos.14
24. RQV250-1325 AB789DL	1 428 101 112	V10137D	
250-1250	111	V10386D	
25. RQ 250/1325 AB790DL	1 428 110 156	V10472D	
26. RQ 250/1250 AB791DL	1 428 110 158	V10762D	
27. RQV250-1325 AB792DL	1 428 101 117	(V10752D) V10987D	
28. RQV250-1325 AB796DL	1 428 101 086	V11008D	Pos.14
29. RQV 300-1325 AB800DL	1 428 101 118	V10816D	
30. RQ 250/1325 AB806DL	1 428 110 160	V10377D	
31. RQV250-985/1325 AB808DL	1 428 101 109	V10882D	Pos.22
32. RQV300-1325 AB809DL	1 428 101 118	V10447D	Pos.29
33. RQV 250-1200 AB820DL	1 428 101 125	V10904D	
34. RQV250-1325 AB828DL	1 428 101 086	V11005D	Pos.14
35. RQV250-1250 AB829KL	1 428 101 104	V10600K	
36. RQV 250-1150 AB830KL	1 428 101 126	V10867K V11014K	
37. RQV250-1250 AB835KL	1 428 101 104	V10883K	
38. RQV 250-1250 AB840KL	1 428 101 129	V11289K	Pos.35
39. RQV300-1325 AB854DL	1 428 101 118	V11503D	Pos.29

EP/RSV-governor - arranged according to code numbers -

51. EF/RSV 300-1250 A8 B254DL			
300-1150 A4 B254DL			
A8 B254DL			
300-1000 A7 B1002DL			
300-1325 A8 B1002DL			
300-1000 A7 B1057DL		V11349D	
300-1325 A8 B1058DL		V11350D	

RQ and RQV..governor - arranged according to V numbers - KHD engines F..L 413

Designation	released as	Designation	released as
RQ 250/1400 ABV 9389 D	AB 677 DL	RQV 250-1200 ABV 10007 D	(AB 744 DL)
RQ 250/1325 ABV 9500 D	AB 677 DL	RQV 250-1325 ABV 10014 D	AB 718 DL
RQ 250/1250 ABV 9501 D	AB 677 DL	RQV 250-985/1325ABV10021D	AB 783 DL
RQ 250/1325 ABV 9502 D		RQV 300-1400 ABV 10062 D	(AB 688 DL)
RQV 250-1325 ABV 9505 D	AB 718 DL	RQ 250/1050 ABV 10088 D	AB 742 DL
RQV 250-1250 ABV 9506 D	AB 731 DL	RQ 250/1075 ABV 10089 D	
RQV 300/570-750 ABV9525D	AB 690 DL	RQV 250-1325 ABV 10137 D	AB 789 DL
RQV 300/740-900 ABV9526D		RQV 250-1325 ABV 10138 D	
RQV 300-800 ABV 9527 D	AB 688 DL	RQV 250-1200 ABV 10141 D	AB 744 DL
RQV 300-900 ABV 9528 D	AB 688 DL	RQ 250/1000 ABV 10220 D	
RQV 300-1000 ABV 9529 D	AB 763 DL	RQV 250/1325 ABV 10221 D	(AB 7311 DL)
RQV 300-1100 ABV 9530 D	AB 688 DL	RQV 250-1300 ABV 10231 D	
RQV 300-1200 ABV 9531 D	AB 688 DL	RQV 250-1325 ABV 10376 D	(AB 718 DL)
RQV 300-1300 ABV 9532 D	AB 688 DL	RQ 250/1325 ABV 10377 D	AB 806 DL
RQV 300-1400 ABV 9533 D	AB 688 DL	RQ 250/1325 ABV 10378 D	(AB 806 DL)
RQ 250/1075 ABV 9535 D	AB 755 DL	RQV 250-1250 ABV 10386 D	AB 789 DL
RQ 250/1150 ABV 9536 D	AB 717 DL	RQV 300-1250 ABV 10446 D	(AB 688 DL)
RQ 250/1325 ABV 9538 D	AB 575 D1	RQV 300-1325 ABV 10447 D	AB 809 DL
RQ 250/1075 ABV 9563 D	AB 730 DL	RQV 300-1325 ABV 10448 D	(AB 688 DL)
RQ 250/1150 ABV 9564 D	AB 730 DL	RQV 300-1250 ABV 10449 D	(AB 688 DL)
RQ 250/1250 ABV 9565 D	AB 730 DL	RQV 300-1324 ABV 10450 D	(AB 809 DL)
RQ 250/1325 ABV 9566 D	AB 734 D1	RQV 300-1250 ABV 10451 D	(AB 688 DL)
RQ 250/1200 ABV 9600 D	AB 677 DL	RQV 300-1325 ABV 10452 D	(AB 809 DL)
RQV 250-1200 ABV 9689 D	(AB 701 D)	RQV 300-1325 ABV 10453 D	(AB 809 DL)
RQ 250/1200 ABV 9828 D	AB 702 DL	RQV 300-1250 ABV 10454 D	(AB 688 DL)
RQV 250/1200 ABV 9831 D	AB 701 DL	RQV 300-1325 ABV 10455 D	(AB 809 DL)
RQ 250/1325 ABV 9870 D	(AB 806 DL)	RQ 250/1250 ABV 10463 D	(AB 730 DL)
RQ 250/1250 ABV 9871 D	(AB 709 DL)	RQ 250/1325 ABV 10464 D	(AB 790 DL)
RQ 250/1250 ABV 9878 D	AB 714 DL	RQ 250/1325 ABV 10465 D	(AB 790 DL)
RQ 250/1250 ABV 9879 D	AB 715 DL	RQ 250/1250 ABV 10466 D	(AB 730 DL)
RQ 250/1250 ABV 9895 D		RQ 250/1325 ABV 10467 D	(AB 790 DL)
RQ 250/1250 ABV 9896 D	AB 709 DL	RQ 250/1250 ABV 10468 D	(AB 730 DL)
RQ 250/1325 ABV 9897 D	(AB 806 DL)	RQ 250/1325 ABV 10469 D	(AB 734 DL)
RQ 250/1325 ABV 9898 D		RQ 250/1325 ABV 10470 D	(AB 790 DL)
RQ 250/1250 ABV 9899 D	(AB 734 DL)	RQ 250/1250 ABV 10471 D	(AB 730 DL)
RQ 250/1250 ABV 9900 D	(AB 714 DL)	RQ 250/1325 ABV 10472 D	AB 790 DL
RQ 250/1250 ABV 9901 D	(AB 714 DL)	RQV 250-1325 ABV 10508 D	AB 788 DL
RQ 250/1325 ABV 9902 D	AB 716 DL	RQ 250/1250 ABV 10541 D	AB 714 DL
RQ 250/1325 ABV 9903 D	(AB 806 DL)	RQV 300-1400 ABV 10576 D	AB 688 DL
RQ 250/1325 ABV 9904 D	(AB 806 DL)		
En RQ 250/1325 ABV 9916 D			

K8

k8

RQ and RQV..governor - arranged according to V numbers - KHD engines F..L 413 (cont.)

Designation	released as
RQV 250-1250 ABV 10600 K	AB 829 KL
RQ 250/1150 ABV 10604 D	
RQ 250/1250 ABV 10605 D	AB 734 DL
RQV 250-1250 ABV 10698 D	(AB 731 DL)
RQV 250-1325 ABV 10752 D	(AB 792 DL)
RQV 250-1200 ABV 10755 D	
RQV 250-1150 ABV 10867 K	AB 830 KL
RQ 250/1250 ABV 10875 D	(AB 734 D)
RQV 250-1250 ABV 10883 K	AB 835 KL
RQV 250-1200 ABV 10904 D	AB 820 DL
RQV 250-850/1200ABV10943D	AB 783 DL
RQV 250-1325 ABV 10987 D	AB 792 DL
RQV 250-1325 ABV 11005 D	AB 828 DL
RQV 250-1325 ABV 11008 D	AB 796 DL
RQV 250-1150 ABV 11014 D	(AB 830 KL)
RQV 300-1325 ABV 11047 D	(AB 688DL)
RQV 300-1325 ABV 11096 D	(AB 688 DL)
RQV 250-985/1325ABV11109D	(AB 783 DL)
RQV 250-1250 ABV 11119 D	(AB 731 DL)
RQV 250-985/1325ABV11184D	(AB 783 DL)
RQV 250-1250 ABV 11289 K	AB 840 KL
EP/RSV 300-1000 A7BV11349D	B1057 DL
EP/RSV 300-1325 A8BV11350D	B1058 DL
RQV 250-1075 ABV 11377 D	
RQV 250-1250 ABV 11478 D	
RQV 300-1325 ABV 11503 D	AB 854 DL
RQV 250-1325 ABV 11735 D	(AB 718 DL)
RQV 250-1325 ABV 11779 D	(AB 731 DL)
RQV 300-1250 ABV 11792 D	(AB 788 DL)
RQV 300-750 ABV 11872 D	
RQV 300/650-900 ABV 11873 D	
RQV 300/725-1050 ABV 11874 D	
RQV 300/800-1150 ABV 11875 D	

B. Governor Settings

RQ.. (arranged according to pos.)

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
1. 250/1400 AB 575 DL											** = 0,65mm
1300	13,7-14,3	1300	14,0	1400	13,6-14,0	520	0	150	6,2-8,1	700	15,8-16,0
				1440	4,0-12,0			250	4,2-6,5	900	15,0-15,4
				1460	0 - 9,4			350	0,8-3,2		
				1520	0			420	0	1100	14,0-14,3
250/1325 AB575 DL, 734 DL											** = 0,5mm
550	15,7-16,3	550	16,0	1345	14,0-14,4	510	0	100	6,4-8,1	800	15,7-16,0
				1370	7,0-13,5			200	4,8-6,0	900	15,3-15,5
				1400	0 - 8,0			300	2,1-4,6		
				1460	0			410	0	1050	14,4-14,6
3. 250/1400 AB677 DL											** = 0,25mm
550	15,7-16,3	550	16,0	1400	14,8-15,2	520	0	100	6,7-8,1	750	15,8-16,0
				1440	4,0-12,0			200	5,4-7,5		
				1480	0 - 8,0			300	2,8-5,1	900	15,0-15,2
				1530	0			420	0		
250/1325 AB677 DL											** = 0,25mm
550	15,7-16,3	550	16,0	1325	14,8-15,2	510	0	100	6,4-8,1	790	15,8-16,0
				1360	6,5-13,0			200	4,8-7,1		
				1400	0 - 8,0			300	2,2-4,0	920	15,0-15,2
				1440	0			410	0		
250/1250 AB677 DL											** = 0,25mm
550	15,7-16,4	550	16,0	1270	14,8-15,2	530	0	150	6,9-8,1	800	15,8-16,0
				1300	8,0-13,8			250	4,9-7,1		
				1340	0 - 8,0			350	1,4-4,0	950	15,2-15,3
				1390	0			430	0		
250/1250 AB677 DL											** = 0,25mm
550	15,7-16,4	550	16,0	1270	14,8-15,2	530	0	150	6,9-8,1	800	15,8-16,0
				1300	8,0-13,8			250	4,9-7,1		
				1340	0 - 8,0			350	1,4-4,0	950	15,2-15,3
				1390	0			430	0		
250/1200 AB677 DL											** = 0,25mm
550	15,7-16,3	550	16,0	1200	14,7-15,2	520	0	150	6,5-8,1	800	15,8-16,0
				1220	10,0-14,2			250	4,4-6,7		
				1250	0 - 9,5			350	1,0-3,5	920	15,2-15,4
				1310	0			420	0		
6. RQ 250/1325 AB 697 DL											** = 0,35mm
550	15,7-16,3	550	16,0	1345	14,4-14,8	520	0	150	6,5-8,1	650	15,8-16,0
				1370	8,0-13,5			250	4,4-6,6		
				1400	0 - 9,3			350	1,0-3,3	850	14,8-15,1
				1460	0			420	0		
8. RQ 250/1200 AB702 DL					**						Torque-control travel dimension a = 0,75mm
550	15,7-16,3	550	16,0	1220	13,3-13,6	520	0	100	6,7-8,1	600	15,8-16,0
				1250	6,0-11,8			200	5,2-7,3	800	15,0-15,2
				1280	0 - 7,6			300	2,7-4,8		
				1330	0			420	0		13,6-13,8

B. Governor Settings

RQ.. (cont.)

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
9. RQ 250/1250 AB709 DL										**	0,6mm
550	15,7-16,3	550	16,0	1270	13,6-14,1	500	0	100	6,2-8,1	650	15,7-16,0
				1300	6,0-12,0			200	4,7-6,8	900	15,2-15,6
				1340	0 - 6,6			300	1,8-4,2		
				1380	0			400	0	1000	14,1-14,5
10. RQ 250/1250 AB 714 DL										**	0,6mm
550	15,7-16,3	550	16,0	1270	13,7-14,1	500	0	100	6,2-8,1	600	15,8-16,0
				1300	6,0-12,2			200	4,7-6,7	800	15,1-15,4
				1330	0 - 7,8			300	1,8-4,2		
				1380	0			400	0	1000	14,1-14,3
11. RQ 250/1250 AB715DL										**	0,8mm
550	15,7-16,3	550	16,0	1270	13,2-13,5	500	0	100	6,2-8,1	600	15,8-16,0
				1300	6,0-12,0			200	4,6-6,7	850	14,8-15,2
				1330	0 - 8,0			300	1,8-4,2		
				1380	0			400	0	1150	14,4-14,7
12. RQ 250/1325 AB716DL										**	0,4mm
550	15,7-16,3	550	16,0	1345	14,3-14,7	520	0	150	6,5-8,1	600	15,8-16,0
				1370	8,0-14,0			250	4,5-6,7	900	14,7-14,9
				1400	0 - 9,5			350	1,0-3,6		
				1460	0			420	0		
13. RQ 250/1150 AB717 DL, 730 DL										**	0,6mm
550	15,7-16,3	550	16,0	1170	13,7-14,0	520	0	150	6,5-8,1	750	15,8-16,0
				1200	5,0-12,5			250	4,3-6,6	900	15,3-15,6
				1230	0 - 7,5			350	0,8-3,4		
				1270	0			420	0	1050	14,0-14,2
15. RQ 250/1250 AB 730 DL										**	0,6mm
550	15,7-16,3	550	16,0	1270	13,8-14,1	500	0	100	6,2-8,1	600	15,8-16,0
				1300	6,0-12,0			200	4,6-6,7	750	15,1-15,4
				1330	0 - 9,0			300	1,8-4,3		
				1380	0			400	0	900	14,1-14,4
RQ 250/1250 AB730DL										**	0,6mm
550	15,7-16,3	500	16,0	1090	13,8-14,1	510	0	100	6,1-8,1	600	15,8-16,0
				1130	6,0-12,0			200	3,1-7,1		
				1160	0 - 8,5			300	2,4-4,5	750	15,1-15,4
				1210	0			410	0	900	14,2-14,5
17. RQ 250/1250 AB734 DL						** Torque-control travel dimension a = 0,5mm					
550	15,7-16,3	550	16,0	1270	14,0-14,4	510	0	100	6,2-8,1	750	15,8-16,0
				1300	6,1-12,6			200	4,7-6,9	900	15,2-15,6
				1330	0 - 8,4			300	2,0-4,4		
				1380	0			410	0	1100	14,4-14,6

B. Governor Settings

Checking of slider		Full-load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12
18. RQ 250/1075 AB742 DL										** = 0,6 mm	
550	15,7-16,3	550	16,0	1100	13,6-14,0	510	0	100	6,6-8,1	700	15,8-16,0
				1130	6,5-12,2			200	5,0-7,2		
				1160	0 - 8,4			300	2,3-4,5	900	14,0-14,2
				1220	0			410	0		
RQ 250/1050 AB742 DL										** = 0,6 mm	
550	15,7-16,3	550	16,0	1070	13,7-14,1	500	0	100	6,1-8,0	700	15,8-16,0
				1100	7,0-12,4			200	4,6-6,7		
				1140	0 - 7,3			300	1,8-4,1	920	14,0-14,5
				1190	0			400	0		
20. RQ 250/1075 AB755 DL										** = 0,5 mm	
550	15,7-16,3	550	16,0	1100	14,0-14,4	510	0	100	6,6-8,1	700	15,8-16,0
				1130	7,0-12,3			200	5,1-7,2		
				1160	0 - 8,2			300	2,3-4,5	850	14,4-14,7
				1220	0			410	0		
25. RQ 250/1325 AB790 DL										** = 0,35 mm	
550	15,7-16,3	550	16,0	1350	13,5-13,9	520	0	150	6,7-8,1	600	15,8-16,0
				1370	8,0-13,0			250	4,4-6,6		
				1400	0 - 9,2			350	0,8-3,4	800	14,9-15,2
				1470	0			420	0		
26. RQ 250/1250 AB791 DL										** = 0,45 mm	
520	15,7-16,3	520	16,0	1270	14,2-14,6	500	0	100	6,2-8,1	600	15,8-16,0
				1320	11,7-14,0			200	4,7-6,7		
				1400	6,4-10,7			300	1,8-4,2	750	15,3-15,6
				1480	0 - 7,0			400	0	900	14,5-14,8
				1610	0						
30. RQ 250/1325 AB806 DL					** Torque-control travel dimension a = 0,55 mm						
550	15,7-16,3	550	16,0	1350	13,6-14,2	530	0	150	6,5-8,1	650	15,8-16,0
				1380	5,0-12,5			250	4,5-6,7		
				1400	0 - 9,5			350	1,0-3,6	800	15,2-15,4
				1460	0			430	0	1000	14,2-14,4

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K12

K12

B. Governor Settings

RQ.. (arranged according to V numbers):

Checking of slider		Full load speed regulation				Idle speed regulation				Torque control	
		Setting point		Test specifications		Setting point		Test specifications			
Control rod travel rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

RQ 250/1325 ABV9898 D

** = 0,6 mm

550	15,7-16,3	550	16,0	1350 1380 1420 1460	13,8-14,2 5,0-12,0 0 - 6,3 0	520	0	150 250 350 420	6,5-8,1 4,5-6,6 1,0-3,3 0	650 950	15,8-16,0 14,3-14,6

Torque-control travel on flyweight assembly dimension a — mm — Speed regulation At — 1 mm less control rod travel

RQ 250/1325 ABV9916 D

** = 1,1 mm

550	15,7-16,3	550	16,0	1350 1380 1420 1460	12,2-12,5 5,0-12,0 0 - 6,3 0	520	0	150 250 350 420	6,5-8,1 4,5-6,6 0,8-3,4 0	650 900 1150	15,7-16,0 14,3-14,6 12,5-12,9

Torque-control travel on flyweight assembly dimension a — mm — Speed regulation At — 1 mm less control rod travel

RQ 250/1000 ABV10220 D

** = 0,6 mm

550	15,7-16,3	550	16,0	1020 1050 1080 1130	13,7-14,0 6,5-12,0 0 - 8,0 0	500	0	100 200 300 400	6,2-8,1 4,5-6,8 1,8-4,2 0	700 900	15,8-16,0 14,0-14,4

Torque-control travel on flyweight assembly dimension a — mm — ** — Speed regulation At — 1 mm less control rod travel

RQ 250/1150 ABV10604 D

Torque-control travel dimension a = 0,4 mm

550	15,7-16,3	550	16,0	1170 1200 1220 1270	14,4-14,7 5,0-12,4 0 - 9,0 0	520	0	150 250 350 420	6,4-8,1 4,3-6,7 0,9-3,4 0	750 950	15,8-16,0 14,7-15,0

Torque-control travel on flyweight assembly dimension a — mm — Speed regulation At — 1 mm less control rod travel

Torque-control travel on flyweight assembly dimension a — mm — Speed regulation At — 1 mm less control rod travel

En

K13

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11

2. RQV 250-1250 AB661DL ** = 0,6mm

ca.66	1250	15,0-17,8	-	-	-	ca.10	100	6,7-8,0	1250	8,3
	1300	10,0-14,4					250	5,2-7,3	1250	0
	1400	0 - 6,7					420	2,8-3,8		
	1480	0					600	1,5-3,0	600	0,5-0,7
							820	0		

RQV 300-1150 AB661DL ** = 0,6mm

ca.66	1150	13,0-16,0				ca.10	100	6,8-8,0	1150	8,8
	1200	7,3-12,0					300	4,8-7,0	1150	0
	1260	0 - 7,0					480	2,4-3,8		
	1330	0					600	1,1-2,5	500	0,5-0,7
							750	0		

4. RQV 300-1400 AB688 DL ** = 0,9mm

ca.68	1400	15,0-18,0				ca.12	100	6,6-8,0	1400	8,3
	1450	10,3-14,7					250	5,3-7,0	1400	0
	1500	5,4-11,2					400	3,1-4,7		
	1640	0					600	2,0-3,5	600	0,8-1,0
							920	0		

RQV 300-1325/1300 AB688DL ** = 0,9 mm

ca.68	1325	13,7-16,8				ca.12	100	6,2-7,7	1325	8,7
	1400	5,8-11,8					250	5,0-6,5	1300	0
	1450	0 - 8,0					400	2,8-4,2		
	1540	0					600	1,5-2,9	600	0,8-1,0
							830	0		

RQV 300-1250 AB688DL ** = 0,9 mm

ca.68	1305	14,7-17,8				ca.12	150	7,0-8,2	1305	8,3
	1510	0					300	5,4-6,9	1250	0
ca.65	1250	14,0-18,2					450	3,0-4,7		
	1320	8,0-13,4					600	1,7-3,3	600	0,8-1,0
	1400	0 - 7,5					850	0		
	1500	0								

RQV 300-1200 AB688DL ** = 0,9 mm

ca.68	1200	15,0-18,0				ca.12	100	6,2-7,8	1200	8,3
	1270	7,5-12,5					250	5,0-6,6	1200	0
	1330	0 - 7,2					400	2,8-4,4		
	1410	0					600	1,2-2,4	600	0,8-1,0
							780	0		

RQV 300-1150 AB688DL ** = 0,9 mm

ca.68	1150	15,0-18,0				ca.12	100	6,1-7,8	1150	8,3
	1220	7,2-12,5					250	4,8-6,6	1150	0
	1280	0 - 7,2					400	2,4-4,3		
	1310	0					600	0,6-1,9	600	0,8-1,0
							730	0		

RQV 300-1075/1100 AB688DL ** Torque-control travel dimension a = 0,9 mm

ca.68	1100	15,0-18,0				ca.12	100	6,2-8,0	1100	8,3
	1150	9,5-14,0					250	5,1-6,8		
	1200	3,0- 9,7					400	2,7-4,6	1100	0
	1230	0 - 6,9					550	1,3-2,7		
	1300	0					720	0	500	0,8-1,0

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11

RQV 300-900 AB688DL ** = 0,9 mm

ca.69	900	15,0-18,2				ca.12	100	6,3-8,0	900	8,3
	950	7,0-12,8					250	5,1-6,7	900	0
	1000	0 - 6,4					400	2,8-4,4		
	1050	0					620	0	500	0,8-1,0

4. RQV 300-800 AB688DL ** = 0,9 mm

ca.68	800	15,0-18,0				ca.12	100	6,7-8,0	800	8,8
	840	4,0-10,5					250	5,5-7,6	800	0
	860	0 - 7,4					400	3,1-5,2	500	0,8-1,0
	910	0					580	0		

5. RQV 300/570-750 AB690DL ** = 0,9 mm

ca.68	750	14,8-18,5	ca.48	500	14,2-15,5	ca.12	270	6,8-8,0	450	1,9-2,1
	770	8,6-14,5		600	6,0-10,5		320	4,4-6,7	750	8,2
	790	2,0-9,8		650	1,4- 4,2		380	3,6-4,0		
	830	0		680	0		480	3,6-4,0	750	0
							625	0	575	0,8-1,0

7.RQV 250-1200 AB701DL, .. 744DL ** = 1,2 mm

ca.66	1200	14,8-17,6				ca.10	150	6,6-8,0	1200	8,3
	1250	9,8-14,2					250	5,5-6,9	1200	0
	1300	4,3-12,4					400	2,9-4,1		
	1350	0 - 6,4					600	1,4-2,8	500	1,1-1,3
	1430	0					800	0		

14. RQV 250-1325 AB718DL, .. 828DL ** = 0,7 mm

ca.66	1325	15,0-17,8				ca.10	150	6,6-8,0	1325	8,3
	1400	8,3-12,9					300	4,6-6,1	1325	0
	1480	0 - 6,8					450	2,7-3,8		
	1560	0					600	1,8-3,2	600	0,6-0,8
							860	0		

RQV ..731DL - a = 1,0; ..788DL - a = 0; ..769DL = a =0,5; → ..718 DL, Pos.14

16. RQV 250-1250 AB731DL ** = 1,0 mm

ca.66	1250	15,0-18,0				ca.10	100	6,5-8,0	1250	8,3
	1300	10,2-14,5					250	5,1-6,6	1250	0
	1400	0 - 7,1					400	2,6-3,8		
	1480	0					600	1,3-2,6	600	0,9-1,1
							800	0		

21. RQV 300-1000 AB763DL

** Torque-control travel dimension a = 0,9 mm

ca.68	1000	15,0-18,0				ca.12	100	6,4-8,0	1000	8,3
	1050	8,1-12,8					250	5,1-6,7	1000	0
	1100	0 - 7,6					400	2,9-4,4		
	1170	0					670	0	500	0,8-1,0

En

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
22. RQV 250-985/1325 AB783DK, ..808DL									** = 0,7 mm	
ca.68	1350	12,0-16,0	ca.61	900	12,4-15,3	ca.12	100	6,8-9,0	460	2,0-2,5
	1420	4,4-11,0		1000	5,4- 8,1		250	5,6-7,2	1300	8,5
	1460	0 - 8,0		1100	0,5- 1,0		400	3,3-4,8		
	1560	0		1300	0,5-1,0		600	0,8-2,2	1000	0
				1380	0		710	0	500	0,5-0,7
RQV 250-850/1200 AB783DL									** = 0,7 mm	
ca.68	1200	14,0-16,0	ca.61	850	12,0-15,0	ca.12	100	5,8-8,0	400	1,8-2,4
	1250	9,0-13,0		950	4,8- 7,0		250	3,8-6,2	1200	8,5
	1320	0 - 7,4		1050	0,6- 1,0		400	2,8-4,4	900	0
	1400	0		1260	0		670	0	500	0,6-0,8
24. RQV-1325 AB789DL									** = 0,8 mm	
ca.68	1325	15,0-18,0	-	-	-	ca.12	150	6,6-8,0	1325	8,3
	1400	10,3-14,6					250	5,2-7,4		
	1500	3,0- 9,5					400	1,7-4,0	1325	0
	1670	0					520	0	600	0,7-0,9
RQV 250-1250 AB789DL									** = 0,8 mm	
ca.68	1250	15,0-18,0	-	-	-	ca.12	150	6,6-8,0	1250	8,3
	1350	8,0-13,0					250	5,2-7,4		
	1450	0 - 7,0					400	1,7-4,0	1250	0
	1560	0					510	0	600	0,7-0,9
27. RQV 250-1325 AB792DL									** = 0,8 mm	
ca.68	1325	15,0-18,0	-	-	-	ca.12	150	6,3-8,0	460	4,6-5,0
	1400	8,3-13,2					250	5,0-6,8	1325	8,3
	1480	0 - 7,6					350	3,0-4,8	1300	0
	1580	0					500	0	700	0,7-0,9
29. RQV 300-1325 AB800DL									** = 0,6 mm	
ca.68	1325	15,0-18,3	-	-	-	ca.12	150	6,5-8,0	1325	8,3
	1400	8,0-13,2					300	4,8-6,6		
	1480	0 - 7,0					450	2,2-4,0	1325	0
	1560	0					600	1,3-2,6	600	0,5-0,7
							830	0		
RQV 300-1325 AB809DL, ..854L, ..854DL Angleichweg Maß a = 0,9 ;									→ ..800DL Pos. 29	
33. RQV 250-1200 AB820DL									** Torque-control travel dimension a = 1,2 mm	
ca.68	1210	15,0-18,0	-	-	-	ca.12	100	6,6-8,2	1200	8,2
	1300	9,8-14,3					250	4,8-6,7		
	1400	3,5- 9,6					400	1,2-3,2	1200	0
	1570	0					480	0	600	1,1-1,3

En

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
35. RQV 250-1250 AB829KL, ..840KL										
ca.68	1250	15,0-17,8	-	-	-	ca.10	200	6,8-8,0	150-250	***
	1320	10,3-14,2					300	3,3-5,2	300	1,0-2,2
	1400	4,4-10,0					400	2,2-3,6	650	4,2-4,7
	1570	0					590	0	1000	6,2-6,6
									1450-1560	**** (11)
			*** Start							
36. RQV 250-1150 AB830KL			**** end							
ca.66	1150	15,0-17,6				ca.10	200	5,8-8,0	150-220	***
	1220	10,0-14,0					300	2,6-4,8	350	2,2-2,9
	1300	3,0- 9,4					400	1,3-2,6	550	4,0-4,4
	1430	0					520	0	1000	6,5-7,2
								1330-	1430	****(11)
38. RQV 250-1250 AB835KL										
ca.66	1250	15,0-17,6				ca.10	150	7,1-8,0	110-190	***
	1320	9,5-13,5					250	4,4-6,0	400	2,2-2,9
	1400	2,2- 8,3					350	2,1-3,7	800	4,2-4,6
	1520	0					600	0,5-1,6	1250	8,3
							740	0	1420-1510	**** 11)
EP/RSV..										
51. EP/RSV 300-1250 A 8 B 254 DL										
ca.61	1250	16,0				ca.22	300	6,0	1230	0
	1300	11,4	**				100	19 - 21		
	1350	5,7					300	5,7-6,3	1000	0,4-0,6
	1320	7,0-10,4					500	1,4-3,7		
	1400	2,0- 3,8	*				680	0 - 1	400	0,4-0,6
	1550	0 - 1								
EP/RSV 300-1150 A 4 B 254 DL										
ca.73	1150	16,0				ca.28	300	6,0	1130	0
	1200	9,2	**				100	19 - 21		
	1220	6,1					300	5,7-6,3	900	0,5-0,7
	1200	7,0-10,5					400	2,9-4,4		
	1250	2,4- 4,6	*				570	0 - 1	400	0,7-0,9
	1340	0 - 1								
EP/RSV 300-1000 A 7 B 1002 DL, ..1057 DL										
ca.72	1000	16,0				ca.28	300	6,0	980	0
	1030	12,6	**				100	19 - 21		
	1070	5,4					300	5,7-6,3	600	0,5-0,7
	1050	7,0-10,2					400	3,0-4,2		
	1100	2,0-4,4	*				450	0,9-3,3	400	0,8-1,0
	1200	0 - 1					550	0 - 1		
EP/RSV 300-1325 A 8 B 1002 DL, ..1058 DL										
ca.68	1325	16,0				ca.25	300	6,0	1300	0
	1370	12,6	** without auxiliary spring				100	19 - 21		
	1440	5,2					300	5,7-6,3	800	0,5-0,7
	1400	8,0-10,7					400	4,0-5,1		
	1500	1,8- 3,9	* with auxiliary spring				500	1,7-3,8	450	0,8-1,0
	1600	0 - 1					700	0 - 1		

K17

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
RQV 300/740-900 ABV9526D									**	= 0,8 mm
ca.68	900	15,0-19,2	ca.48	740	9,6-15,5	ca-12	250	6,2-8,2	300	1,0
	920	8,0-14,5		760	7,2-12,6		360	3,6-4,0	900	8,2
	940	0 - 9,5		800	3,2- 6,6		650	3,6-4,0	900	0
	980	0		840	0		780	0	750	0,8-1,0
RQV 250-1325 ABV10138D									**	= 0,8 mm
ca.68	1325	15,0-18,0				ca.12	150	6,7-8,0	400	2,0
	1400	8,0-13,0					300	4,7-6,2	1325	8,2
	1470	0 - 7,2					600	1,8-3,3	1325	0
	1550	0					870	0	600	0,8-1,0
RQV 250-1300 ABV10231D									**	= 1,2 mm
ca.68	1310	15,0-18,0				ca.12	150	6,5-8,2	1310	8,3
	1400	8,0-13,0					300	4,2-6,0	1300	0
	1500	0 - 7,0					450	1,8-3,2		
	1620	0					600	0	600	1,1-1,3
RQV 250-1200 ABV10755DL									**	= 0,8 mm
ca.68	1225	15,0-18,0				ca.12	200	7,1-8,2	400	1,8-2,4
	1300	10,7-15,0					300	5,2-7,0	1225	8,3
	1450	1,2- 8,1					400	2,5-4,4	1200	0
	1600	0					520	0	600	0,7-0,9
RQV 250-1075 ABV11377DL									**	= 0,7 mm
ca.66	1110	15,0-18,0				ca.10	120	7,0-8,0	1100	8,3
	1160	9,4-13,8					250	5,6-6,9	1075	0
	1220	2,5- 9,0					400	2,9-4,6		
	1320	0					550	1,5-2,8	600	0,6-0,8
							730	0		
RQV 250-1250 ABV11478DL									**	= 0,8 mm
ca.68	1260	14,4-17,4				ca.12	200	6,8-8,2	300	0,4-1,4
	1320	9,0-13,6					300	5,1-7,3	600	4,9-5,1
	1400	0 - 8,0					400	2,5-4,8	1260	8,3
	1500	0					530	0	1250	0
									600	0,7-0,9
RQV 300-750 ABV11872DL									**	= 1,0 mm
ca.68	770	15,0-18,3				ca.12	200	6,8-8,2	770	8,3
	800	9,0-14,0					300	5,2-6,8	750	0
	840	0 - 7,8					450	2,0-3,5		
	890	0					570	0	450	0,9-1,1
RQV 300/650-900 ABV11873DL									**	Torque-control travel dimension a = 1,0 mm
ca.68	910	15,0-18,3	ca.48	610	11,5-16,5	ca.12	200	6,8-8,2	250	0,3-0,9
	950	6,5-12,4		660	8,6-13,0		350	4,2-5,8	450	1,9-2,1
	980	0 - 8,0		740	3,3- 6,6		480	3,6-4,0	800	5,4-6,0
	1030	0		810	0		620	1,1-3,6	910	8,3
							720	0	900	0
									650	0,9-1,1

En

K18

K18

RQV.. (arranged according to pos.)

Upper rated speed			Intermediate rated speed			Lower rated speed			Sliding sleeve travel Torque-control travel	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
RQV 300/725-1050 ABV11874DL									** = 1,0mm	
ca.68	1060	15,0-18,2	ca.48	670	11,5-16,5	ca.12	150	6,8-8,2	250	0,2-1,2
	1100	8,0-13,6		750	8,2-12,4		300	4,7-6,4	480	1,9-2,1
	1150	0 - 7,7		850	3,3- 6,1		450	3,6-4,0	850	4,4-5,0
				930	0		700	0,8-3,1	1060	8,3
							820	0	1050	0
									725	0,9-1,1
RQV 300/800-1150 ABV11875DL										
ca.68	1160	15,0-18,3	ca.48	760	11,3-16,4	ca.12	150	6,6-8,2	250	0,5-1,2
	1200	8,3-14,0		850	7,6-11,9		300	4,6-6,2	500	1,9-2,1
	1250	0 - 7,7		950	2,8- 5,6		500	3,6-4,0	1000	5,2-5,6
	1310	0		1030	0		700	2,4-4,0	1160	8,3
							900	0	1150	0
									800	0,9-1,1

** Torque-control travel dimension a = 1,0mm

En

K19

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

176 PS / 2650 U/min

PE 6 A 85 .. S 2211Z / RQ 250/1325 AB697DL
RQV 250-1325 AB718DL,783DL, 789DL, 792DL, 796DL

1325	79,5-81,5	RQ: 800 RQV: 1340	1000 800	78,5 - 81,5 76,5 - 79,5

---

170 PS / 2650 U/min:

PE 6 A 85.. S2211 / RQ 250/1325 AB697DL
RQV 250-1325 AB718DL, 783DL, 789DL, 792DL, 796DL

1325	78,5-80,5	RQ: 800 RQV:1340	1000 800	77,0 - 80,0 76,5 - 79,5

---

162 PS / 2650 U/min

PE 6 A 85 .. S2211 / RQ 250/1325 ABV9898D

1325	78,5-80,5	RQ; 800	1000 800	77,0 - 80,0 76,5 - 79,5

---

157 PS / 2650 U/min

PE 6 A 85 .. S2211 / RQ 250/1325 AB806DL, V10378D
RQV 250-1325 AB788DL, 731DL
RQV 250-985/1325 AB783DL

1325	75,7-77,5	RQ: 800 RQV: 1340	1000 800	72,5 - 75,5 73,5 - 76,5

---

153 PS / 2650 U/min

PE 6 A 85 .. S2211 / RQ 250/1325 ABV9897D

1325	72,5-74,5	RQ: 800	1000 800	68,5 - 71,5 73,5 - 76,5

---

150 PS / 2650 U/min

PE 6 A 85 .. S2211 / RQ 250/1325 ABV9870D
RQV 250-1325 ABV10376D, V10752D

1325	71,5-73,5	RQ: 800 RQV:1340	1000 800	68,5 - 71,5 73,5 - 76,5

---

152 PS / 2500 U/min

PE 6 A 85 .. S2211 / RQV 250-1250 ABV11478D

1250	76,5-78,5	RQV: 1340	1000 800	74,5 - 77,5 73,0 - 76,0

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

150 PS / 2500 U/min

PE 6 A 85 . S2211 / RQ 250/1250 AB709DL
RQV250-1250 ABV11119D

1250	75,5-77,5	RQ: 800	1000	73,5 - 76,5
		RQV:1270	800	74,5 - 77,5

---

140 PS / 2500 U/min

PE 6 A 85 .. S2211 / RQ 250/1250 AB709DL, 791DL

1250	69,5 - 71,5	RQ: 800	1000	68,5 - 71,5
			800	71,0 - 74,0

---

135 PS / 2500 U/min

PE 6 A 85 .. S2211 / RQ 250/1250 ABV9895D
RQV250-1250 ABV10698D

1250	66,5 - 68,5	RQ: 800	1000	64,5 - 67,5
		RQV 1270	800	68,0 - 71,0

---

135 PS / 2400 U/min

PE 6 A 85 .. S2211 / RQ 250/1200 AB702DL
RQV250-1200 AB701DL. 744DL. 783DL, 820DL, V10755D

1200	65,0 - 67,0	RQ: 800	1000	66,5 - 69,5
		RQV:1220	800	68,0 - 71,0

---

144 PS / 2300 U/min

PE 6 A 85 .. S2211 / RQ 250/1150 ABV10604D

1150	73,5 - 75,5	RQ: 800	1000	72,0 - 75,0
			800	73,5 - 76,5

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation **RQV** Control-rod stop **RQ**	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

232 PS / 2650 U/min

PE 8 A 85 .. S2212 / RQ 250/1325 AB716DL
RQV250-1325 AB718DL, 783DL, 783DL, 792DL, 796DL
828DL, V11109D

1325	79,5 - 81,5	RQ: 800 RQV:1340	1000 800	78,5 - 81,5 76,5 - 79,5

---

210 PS / 2650 U/min

PE 8 A 85 .. S2212 / RQ 250/1325 AB806DL
RQV250-1325 AB731DL

1325	75,5 - 77,5	RQ: 800 RQV:1340	1000 800	72,5 - 75,5 73,5 - 76,5

---

205 PS / 2650 U/min

PE 8 A 85 .. S2212 / RQ 250/1325 ABV9904D
S2212Z + RQV 250-1325 AB789DL

1325	71,5 - 73,5	RQ: 800 RQV:1340	1000 800	68,5 - 71,5 73,5 - 76,5

---

180 PS / 2650 U/min

PE 8 A 85 .. S2212 / RQ 250/1325 ABV9916D

1325	62,5 - 64,5	RQ: 800	1000 800	68,0 - 71,0 73,5 - 76,5

---

210 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 ABV10875D

1250	80,5 - 82,5	RQ: 800	1000 800	78,5 - 81,5 76,5 - 79,5

---

205 PS / 2500 U/min

PE 8 A .. S2212 / RQ 250/1250 ABV9899D

1250	77,5 - 79,5	RQ: 800	1000 800	74,5 - 77,5 75,5 - 78,5

---

200 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 AB714DL, RQ 250-1250 AB731DL
S2212Z + RQV250-1250 AB789DL

1250	75,5 - 77,5	RQ: 800 RQV:1270	1000 800	73,5 - 76,5 74,5 - 77,5

K22

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C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV / Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

190 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 ABV9900D

1250	72,0 - 74,0	RQ: 800	1000	69,0 - 72,0		
			800	71,0 - 74,0		

---

185 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 AB715DL
RQV250-1250 AB789DL

1250	69,5 - 71,5	RQ: 800	1000	68,5 - 71,5		
		RQV:1270	800	71,0 - 74,0		

---

180 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 AB714DL

1250	66,5 - 68,5	RQ: 800	1000	65,0 - 67,0		
			800	68,0 - 71,0		

---

170 PS / 2500 U/min

PE 8 A 85 .. S2212 / RQ 250/1250 AB714DL

1250	62,0 - 64,0	RQ: 800	1000	59,0 - 62,0		
			800	64,5 - 67,5		

---

192 PS / 2300 U/min:

PE 8 A 85 .. S2212 / RQ 250/1150 AB717DL

1150	73,5 - 75,5	RQ: 800	1000	72,0 - 75,0		
			800	74,5 - 77,5		

BF 8 L 413

320 PS / 2500 U/min

PE 8 A 90 .. S2212 / RQV 250-1250 AB835KL

1250	126,0 - 128,0	RQV: 1270	1000	121,5 - 134,5	250	11,5
			400	72,0 - 76,0	1000	11,5
					400	10,2

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

285/290 PS 2650 U/min

PE 10 A 85 .. S2243 / RQ 250/1325 AB790DL
RQV300-1325 AB800DL, 809DL

1325	79,5 - 81,5	RQ: 800	1000	78,5 - 81,5
		RQV:1340	800	76,5 - 79,5

270/275 PS / 2650 U/min

PE 10 A 85 .. S2243 / RQ 250/1325 ABV10470D
RQV300-1325 ABV10453D

1325	78,5 - 80,5	RQ: 800	1000	77,0 - 80,0
		RQV:1340	800	76,5 - 79,5

255/262 PS / 2650 U/min

PE 10 A 85 .. S2243 / RQ 250/1325 ABV10469D
RQV 300-1325 ABV10452D

1325	75,5 - 77,5	RQ: 800	1000	72,5 - 75,5
		RQV:1340	800	73,5 - 76,5

---

275 PS / 2500 U/min

PE 10 A 85 .. S2243 / RQ 250/1250 ABV10471D
RQV 300-1250 ABV10454D

1250	78,5 - 80,5	RQ: 800	1000	77,0 - 80,0
		RQV:1270	800	76,5 - 79,5

---

246 PS / 2500 U/min

PE 10 A 85 .. S2243 / RQ 250/1250 ABV10468D
RQV 300-1250 ABV10451D

1250	75,5 - 77,5	RQ: 800	1000	73,5 - 76,5
		RQV:1270	800	74,5 - 77,5

F 10 L 413 L

305 PS / 2650 U/min

PE 10 A 90..S2243 / RQ 250/1325 AB790DL
RQV 300-1325 AB809DL. 854DL, V11096D

1325	83,0 - 85,0	RQ: 800	1000	82,0 - 85,0
		RQV:1340	800	80,0 - 83,0

---

270 PS / 2650 U/min

PE 10 A 90 ,, S2243Z / RQ 250/1325 AB790DL
RQV 300-1325 AB809DL

1325	77,0 - 79,0	RQ: 800	1000	74,0 - 77,0
		RQV:1340	800	73,0 - 76,0

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation **RQV** Control-rod stop **RQ**	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

340 PS / 2650 U/min

PE 12 A 85 .. S2241 / RQ 250/1325 ABV10467D
RQV 300-1325 AB809DL, 808DL, V11009D, V11047D

1325	78,5 - 80,5	RQ: 800	1000	77,0 -80,0
		RQV:1340	800	76,5 - 79,5

310/314 PS / 2650 U/min

PE 12 A 85 .. S2241 / RQ 250/1325 ABV10465D
RQV 300-1325 ABV10448D
S2241Z + RQV 300-1325 ABV11047D

1325	75,5 - 77,5	RQ: 800	1000	71,5 - 74,5
		RQV:1340	800	73,5 - 76,5

---

300 PS / 2650 U/min

PE 12 A 85 .. S2241 / RQ 250/1325 ABV10464D
RQV 300-1325 ABV10447D

1325	71,5 - 73,5	RQ: 800	1000	68,0 - 71,0
		RQV:1340	800	71,0 - 74,0

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328 PS / 2500 U/min

PE 12 A 85 .. S2241 / RQ 250/1250 ABV10466D
RQV300-1250 ABV10449D, V11792D

1250	78,5 - 80,5	RQ: 800	1000	77,0 - 80,0
		RQV:1270	800	76,5 - 79,5

---

304 PS / 2500 U/min

PE 12 A 85 .. S2241 / RQ 250/1250 ABV10463D
RQV 300-1250 ABV10446D

1250	75,5 - 77,5	RQ 800	1000	71,5 - 74,5
		RQV:1270	800	73,5 - 76,5

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Test oil temp 40°C (104°F)		Rotational-speed limitation RQV / Control-rod stop RQ	Fuel delivery characteristics		Starting fuel delivery	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes
1	2	3	4	5	6	7

500 PS / 2500 U/min

PE 12 A 90 .. S2241 / RQV 250-1250 AB829KL

1250	122,0 - 124,0	RQV: 1270	1000	116,0-119,0	1250	12,8
			400	67,0- 71,0	1000	12,5
					800	12,2
					400	10,1

420 PS / 2500 U/min

PE 12 A 90 .. S2241 / RQV 250-1250 AB840KL

1250	106,0-108,0	RQV:1270	1000	98,0 -101,0	1250	11,9
			400	68,0 - 72,0	1000	11,6
					800	11,9
					400	10,2

450 PS / 2300 U/min

PE 12 A 90 .. S2241 / RQV 250-1150 AB830KL

1150	111,5-113,5	RQV:1170	1000	110,0-113,0	1150	12,5
			400	69,0- 73,0	1000	12,5
					800	12,2
					400	10,7

400 PS / 2300 U/min

PE 12 A 90 .. S2241 / RQV 250-1150 ABV11418K

1150	103,5-105,5	RQV: 1170	800	108,5-111,5	1150	11,9
			400	71,0- 75,0	800	12,9
					400	10,9

385 PS / 2300 U/min

PE 12 A 90 .. S2241 / RQV 250-1150 ABV11014K

1150	98,0 -100,0	RQV: 1170	700	95,5 - 98,5	1150	10,8
			400	73,5 - 77,5	1000	10,9
					700	11,5
					400	10,2

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4
Edition 5.10.66

En

PES 6 A 80 C 420 LS 2054 EP/RSV 300-1000 A2 B187 D

supersedes 8.10.63
company Case
engine W 9 B

Test with case overflow valve!
Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque control valve) mm 6
1000	9	5,5 - 6,0	0,4			
	6	2,2 - 3,0				
	15	11,5 - 12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.46	1015	9,0	without auxiliary spring	ca.23	300	6,0	980	0
	1040	6,9			100	19 - 21	800	0,6-0,8
	1060	5,4			300	5,7-6,3	700	0,8-1,0
	1030	7,4-8,0	with auxiliary spring		400	1,4-3,2	400	0,8-1,0
(2a)	1100	3,5-4,5			500	0 - 1		
	1180	0 -1,0						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle: rev/min 6	cm³/1000 strokes 7	(5) (4a) Idle stop: rev/min 8	Control rod travel mm 9
980	63,5 - 65,5	1000-1015	700	70,0-74,0	100	7,7-8,5		
			600	70,5-74,5				
			1050	11,5-21,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

L3

L3

Test Specifications Fuel Injection Pumps and Governors (1A)

VDT-WPP 001/4 MB 1,8 r
2. Edition

En

PES 4 A 50 B 410 RS 50	EP/RSV	250-1275 A5B60, 196	(1)	supersedes 12.68
..C.. RS 1010,Z		250-1275 A5B60	(2-3)	company Daimler-Benz
RS 1025		250-1275 A5B152	(4)	engine OM 636
RS 1010		250-1425 A5B60	(5)	
RS 68		650-1200 A5B387, 388	(6)	

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	2,2 - 2,7	0,2			
	9	0,8 - 1,4				
	18	4,5 - 5,2				
200	9	0,6 - 1,1				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings 250 - 1275 (1...4)

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.54	1275	16,0	without auxiliary spring	ca.18	250	6,0	1265	0
	1320	11,5			100	19,0-21,0		
	1370	6,0			250	5,7- 6,3	340	1,2-1,8
	1340	7,8-10,6			300	4,7- 5,3		
(2a)	1380	3,5- 6,8	with auxiliary spring		560	0 - 1,0		
	1550	0,3- 1,0						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to): rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle: rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
(1)	1250	28,2 - 29,2	1280						
(2)	1250	28,2 - 29,2	1280						
(3)	1250	27,2 - 28,2	1280						
(4)	1250	23,7 - 24,7	1280						
	Increase by ± 0,5 cm³ !								

Checking values in brackets

* 1 mm less control rod travel than col 2

L4

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed: rev/min (8)	Control rod travel mm (9)	(3) Torque control: rev/min (10)	Control rod travel mm (11)
ca.65	1425 16,0 1500 9,8 1550 4,2		without auxiliary spring	ca.21	250	6,0	1400	0
					100	19 - 21		
					250	5,7-6,3	500	0
					350	3,0-4,5		
	1500 8,0-11,0 1600 0,8- 3,4		with auxiliary spring		450	0 - 2,5	300	1,2-1,8
(2a)	1700 0,3- 1				550	0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ...) rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle (5): rev/min (6)	cm³/1000 strokes (7)	(4a) Idle stop: rev/min (8)	Control rod travel mm (9)
(5) 1400	28,2-29,2	1430						

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings 650-1200 (6)

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed: rev/min (8)	Control rod travel mm (9)	(3) Torque control: rev/min (10)	Control rod travel mm (11)
ca.51	1200 16,0 1250 11,2 1300 5,6		without auxiliary spring	ca.29	650	6,0	1180	0
					100	19 - 21		
					650	5,7 - 6,3	600	0
	1270 7,0-10,0 1350 2,8- 4,7		with auxiliary spring		700	4,0 - 5,0	400	1,4-2,0
(2a)	1500 0,3- 1				900	0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ...) rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle (5): rev/min (6)	cm³/1000 strokes (7)	(4a) Idle stop: rev/min (8)	Control rod travel mm (9)
(6) 1120	28,2 - 29,2	1220*						

Checking values in brackets

* 1 mm less control rod travel than col. 2

L5

LS

En

Test Specifications Fuel Injection Pumps (1A) and Governors

En

PE 3 A 60 B 320 LS 101 EP/RSV 250-875 A14/18

supersedes
company J H C
engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0	0,3			
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed: rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
	875	16			250	6,5	860	0
	900	12	without auxiliary spring					
	940	6,6			100	19 - 21	450	0
ca.53	890	13,4-14,4			250	6,2-6,8	300	1,2 - 2,2
(2a)	920	8,6-10,5	with auxiliary spring		300	4,5-5,7		
	940	5,6- 8			400	1,3-3,5		
	1000	1,7-3,9			570	0		
	1090	0						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
750	33,5-35,5	880-1070						

Checking values in brackets

* 1 mm less control rod travel than col 2

30.8.60

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

L6

L6

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4

En

PE 6 A 60 B 320 RS 438 EP/RSV 225-1000 A 7 A 344

supersedes

company: Perkins

engine

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	4,5 - 5,0				
	6	0,5 - 1,2				
	18	8,3 - 9,1				
200	6	0,3 - 0,9				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
ca.65	1000	16				ca.23	225	6		
	1030	11,6	without auxiliary				100	19 - 21		
	1060	5,8	spring				225	5,7-6,3		
	1030	10,4-12,8					260	3,6-4,6		
	1060	3 - 8					400	0 - 1		
	1100	0,3-2,5	with auxiliary							
	1200	0 - 1	spring			③a				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control travel ⑤ rev/min 8	Control rod travel mm 9
980	41,0 - 43,0	1010-1030						

Checking values in brackets

* 1 mm less control rod travel than col 2

KDA 30.9.59

L7

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung
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Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 DAI 4,6 a 5
Edition 3,64

En

PES 6 A 70 B 410 RS 64 RQV 300-700/1450 A 207D
208D
217D
229D

1034

supersedes 1.8.59
company Daimler-Benz
engine OM 312

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0,3			
	6	1,2 - 1,9				
	18	11,1 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐.

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
63±1,5	1450	10 -13,5	55±1,5	650	9,8-10,2	10±1,5 ③a	200	5,8-7,8	1450	0
	1470	8 - 12		700	7,2-10,2		300	4,8-7	600	0,1-0,3
	1500	4,5- 9,5		800	3,8- 6		400	3,6-6	350	0,4-0,6
	1550	0 - 5		1200	3,8- 4,8		600	0 -2		
	1620	0		1400	0		800	0		

Torque control travel a = 0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation ②b intermediate speed ④a rev/min 3	Fuel delivery characteristics ⑤a high idle speed ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery ⑥ idle switching point rev/min 6	cm³/1000 strokes 7	Torque-control travel ⑤ rev/min 8	Control rod travel mm 9
1000	43,5 - 45,5	1455-1470	500	45,5-48,5	100	mind.7,9	700	
			700	42,5-45,5				
			1450	46,5-49,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

L8

Test Specifications Fuel Injection Pumps and Governors (1A)

VDT-WPP 001/4 KHD 3,4d
Edition 11.64

En

PE 4 A 70 B 410 RS 456 EP/RSV 300-900 A 8 A 347 (V 4369D)

Cylinders 1 and 4 provided with dummy seal.
Start-of-delivery mark cylinder 2!

supersedes 3.64
company KHD 3,4s 3.64
engine K H D F 4 L 712

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0,4			
	6	1,2 - 1,9				
	18	10,9 -11,9				
200	6	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min			Intermediate rated speed			(4) Lower rated speed			(3) Torque control	
Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	4	5	6	Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min 10	Control rod travel mm 11
ca.41	900	10	without auxiliary spring			ca.19	300	5,5	880	0
	930	6,4					100	19 - 21	500	0
	950	3,8					300	5,2-5,8	350	1,2-1,8
	950	3,2 - 5,2					400	2 -3,5		
(2a)	1000	1,2 - 2,5	with auxiliary spring				540	0 - 1		
	1100	0 - 1								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F)		(6) Rotational-speed limitat	(3a) Fuel delivery characteristics		Starting fuel delivery (5) Idle		(4a) Idle stop	
rev/min 1	cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
880	37,5-39,5	910 - 920					300	5,5

Checking values in brackets

* 1 mm less control rod travel than col 2

L9

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 BOS 10,9 k
Edition 10.64

En

PE 6 A 90 B 412 RS 315 S 2044 EP/RSV 200-1000 A 1 A 115D (V 7588)

supersedes 1.5.61
company Büssing
engine S 11/200

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	10,3 - 10,7	0,4			
	9	6,0 - 6,5				
200	9	3,9 - 4,6				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Control-lever deflection in degrees 7	Lower rated speed rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.53	1000	16	without auxiliary spring	ca.22	200	6	980	0
	1050	11			100	19 - 21	800	0,1-0,3
	1080	6,6			200	5,7-6,3	600	0,3-0,5
	1050	9 - 12			300	3,8- 5	300	0,4-0,6
	1100	3,7- 6	with auxiliary spring		400	0 - 2,2		
(2a)	1150	0,5-3,5			550	0 - 1		
	1250							

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (5) Idle rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
1000	114-116	1030-1040	500	116,0-120,0	100	mind. 18mm	RW	
			700	113,5-117,5				
			900	115,0-119,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

L10

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 DAI 4,8 a 6
Edition 5.64 En

PES 6 A 70 B 410 RS 64 1034 RQV 250/900/1450 A 186 217 229

supersedes 1.8.59
company Daimler-Benz
engine OM 312

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,5 - 7,0	0,3			
	6	1,2 - 1,9				
	18	11,1 -11,9				
200	6	0,6 - 1,5				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min ①a ②a 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm ④ 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm ③ 9	Sliding sleeve travel ① rev/min 10	mm 11
66±1,5	1450	10 - 13	44±1,5	900	8 -10,2	10±1,5 ③a	200	5,8- 8		
	1470	7,5-11,6		950	3,5- 8,5		250	5 - 7		
	1500	4 - 9		1000	0 - 4,5		400	3,6- 4		
	1540	0 - 6		1050	0		700	3 - 4		
	1600	0					800	0 - 3		
							900	0		

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) ② rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation intermediate speed ②b ④a rev/min 3	Fuel delivery characteristics high idle speed ⑤a ⑤b rev/min 4	cm³/1000 strokes 5	Starting fuel delivery idle switching point ⑥ rev/min 6	cm³/1000 strokes 7	Torque-control travel ⑤ rev/min 8	Control rod travel mm 9
1000	43,5-45,5	1455-1470			100	mind.7,9	900	

Checking values in brackets

* 1 mm less control rod travel than col. 2

L11

BOSCH Geschäftsbereich KH Kundendienst, Kfz-Ausrüstung

Test Specifications Fuel Injection Pumps (1A) and Governors

En

PES 4 A 75 B 410 RS 473 EP/RSV 300-800 A7 A 372 d
1057

supersedes
company MWM
engine AKD 412 V (Famo)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,45+0,1 mm (from BDC) RW 9

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,7	0,3			
	6	0,9 - 1,7				
	12	6,2 - 6,6				
200	9	1,9 - 2,8				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.60	800	16	without auxiliary spring	ca.31	300	7,5	780	0
	840	12,8			100	19 - 21	650	0,2-0,4
	880	8,4			300	7,2-7,8	550	0,7-0,9
	880	6,4- 10			400	4,5- 6	350	1 -1,2
(2a)	900	5 - 8	with auxiliary spring		500	0 - 4		
	950	2,4-4,7			650	0 - 1		
	1050	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F) rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
780	54,5-56,5	810 - 830	600	57,0-60,0			n 300	RW 7,5
			450	63,0-66,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

22.2.61

L12

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4
Edition 10.7.69
En

PES 2 A 70 C 420 RS 1158 EP/RSV 450-1400 A2B448DR
450-1250
See page 2!

supersedes 3.7.68
company Indenor
engine X DP 88

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,9 - 4,4	0,3			
	6	1,5 - 2,7				
	18	10,2 - 11,5				
200	6	0,3 - 1,4				

Adjust the fuel delivery from each outlet according to the values in ☐

Testoil-ISO 4113

B. Governor Settings

EP/RSV 450-1400 A2B 448DR

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.65	1400	12,0	without auxiliary spring	ca.31	450	5,5	1380	0
	1460	8,9			200	19 - 21	1100	0
	1500	6,5			450	5,2-5,8	900	0,2-0,4
	1450	8,8-10,0	with auxiliary spring		600	2,2-3,6	550	0,5-0,7
(2a)	1500	5,2- 7,4			800	0 - 1		
	1600	1,5- 3,5						
	1750	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104 F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to): rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5): rev/min 6	cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
1380	34,5-36,5	1410-1430	900	23,0-26,0	100	5,9-6,9	450	7,5-11,5
			500	22,5-25,5			(ca.29° Control lever-Control rod travel 7,4)	

Checking values in brackets

* 1 mm less control rod travel than col 2

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The numbers denote the sequence of the tests

EP/RSV 450-1250 A 2 B 448 DR

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed rev/min (8)	Control rod travel mm (9)	(3) Torque control rev/min (10)	Control rod travel mm (11)
ca.58	1250	12	without auxiliary spring	ca.30	450	5,5	1230	0
	1300	9,5			250	19 - 21	900	0,1-0,3
	1360	6			450	5,2-5,8	500	0,5-0,7
	1300	8,8-10,0			600	2,2-3,6		
(2a)	1400	3,2- 4,8			00	0 - 1		
	1600	0 - 1						

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ...) rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle: rev/min (6)	cm³/1000 strokes (7)	(5) (4a) Idle stop: rev/min (8)	Control rod travel mm (9)

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

(1) Upper rated speed rev/min: Degree of deflection of control lever (1)	Control rod travel mm (2)	Control rod travel mm rev/min (3)	Intermediate rated speed (4) (5) (6)	(4) Control-lever deflection in degrees (7)	Lower rated speed rev/min (8)	Control rod travel mm (9)	(3) Torque control rev/min (10)	Control rod travel mm (11)
(2a)								

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp. 40°C (104°F): rev/min (1)	cm³/1000 strokes (2)	(6) Rotational-speed limitat. Note: changed to ...) rev/min (3)	(3a) Fuel delivery characteristics: rev/min (4)	cm³/1000 strokes (5)	Starting fuel delivery Idle: rev/min (6)	cm³/1000 strokes (7)	(5) (4a) Idle stop: rev/min (8)	Control rod travel mm (9)

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1A) and Governors

VDT-WPP 001/4 MB 1,8 x
Edition 6.70

En

PES 4 A 50 C 410 RS 1025 EP/RSV 350-1375 A2 B559 D (1) supersedes
PES 4 A 50 C 410 RS 1010 EP/RSV 350-750 A1 B551 (2) company Daimler-Benz
PES 4 A 50 C 410 RS 1010 EP/M 60 A 168 D (3) engine OM 636 E

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque-control valve) mm 6
1000	12	2,2 - 2,7	0,3			
	9	0,8 - 1,4				
	18	4,5 - 5,2				
200	9	0,6 - 1,2				

Adjust the fuel delivery from each outlet according to the values in ▭

Testoil-ISO 4113

B. Governor Settings

EP/RSV ... A 2 B559 D (1)

(1) Upper rated speed rev/min: Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed: Control-lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control: rev/min 10	Control rod travel mm 11
ca.53	1375	16,0	without auxiliary spring	ca.20	350	6,0	1350	0
	1450	10,4			150	19 - 21		
	1480	7,0			350	5,7-6,3	1000	0,2-0,4
	1450	8,8-11,2			500	2,5-4,2	500	0,2-0,4
(2a)	1550	2,2- 4.5	with auxiliary spring		700	0 - 1		
	1700	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop, Test oil temp 40°C (104°F): rev/min 1	cm³/1000 strokes 2	(6) Rotational-speed limitat, Note changed to) rev/min 3	(3a) Fuel delivery characteristics: rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle: rev/min 6	(5) cm³/1000 strokes 7	(4a) Idle stop: rev/min 8	Control rod travel mm 9
1375	29,2-30,2	1390	1000	28,2-30,2	100	16,2-16,8	350	6,0

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Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschaftsbereich KH Kundendienst Kfz-Ausrustung

B. Governor Settings

EP/RSV... A 1 B 551 (2) MB 1,8 x

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rodtravel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)		Degree of deflection of control lever	rev/min	Control rod travel mm (3)		rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
ca.36	750	16,0		with auxiliary spring Tension max. - 4 crans with auxiliary spring				ca.20 (3a)	350	6,0		730	0
	775	11,0							150	19 - 21		450	0
	800	5,6										300	0,7-1,3
	780	8,6-11,2											
	800	3,2- 7,0											
	850	0 - 1											

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
740	29,7-30,7	760 (Control lever ca. 35) 785; Control rod travel 7 with idle-speed auxiliary spring						

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

EP/M 60 A 168 D (3)

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel (1)	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (1a) (2a)		Degree of deflection of control lever	rev/min	Control rod travel mm (4)		Degree of deflection of control lever	rev/min	Control rod travel mm (3)		rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
0,4+0,1	500-480	10		-	-	-		- (3a)	480	12,7*)		100	13,1-13,2
									550	10,0-11,1		225	12,9-13,2
									700	2,5-11,5		325	12,7-13,0

* Set breakaway between 500-520 mm water column by inserting washers under the governor spring.

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2)		Rotational-speed limitation intermediate speed (2b) (4a)	Fuel delivery characteristics high idle speed (5a) (5b)		Starting fuel delivery idle switching point (6)		Torque-control travel (5)	
rev/min	cm^3/1000 strokes	rev/min	rev/min	cm^3/1000 strokes	rev/min	cm^3/1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1500	480	29,7-30,7	900	200		28,7-30,7		
			500	80		27,7-29,7		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 KHD 7,4c
Edition 5,64
En

PE 6 A 75 C 320 RS 1021 S 1119 RQV 250-1250 AA 497D AA 497D AA 552DR

supersedes 5.63
company K H D
engine F 6 L 613 (126 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,8 - 4,2	0,3			
	12	6,7 - 7,6				
	15	9,5 -10,6				
200	9	2,1 - 2,9				

Adjust the fuel delivery from each outlet according to the values in [ ].

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm (1a) rev/min (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
ca.66	1250	15 - 18				ca.10	200	6,2- 8	1250	0
	1280	12,2- 16					300	3,2-3,8	1100	0,2-0,4
	1360	4,4-10,4					500	2 -3,4	900	0,4-0,6
	1440	0 - 4					700	0 -1,2	700	0,5-0,7
	1490	0					790	0	500	0,6-0,8
						(3a)				

Torque control travel a = 0,7 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) Idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1230	71 - 73	600	1000	69,5-72,5				
			600	71,0-74,0				
			1250	mind.70,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung

L18

Test Specifications Fuel Injection Pumps ① and Governors

DAI 10,8 d 1
Edition 3.64

En

PES 6 A 90 B 410 RS 429 z RQV 250-1100 A 282 D
RS 395 y, z
RS 516,Ay,y,z
RS 2020 y

supersedes 13.4.62
company Daimler-Benz
engine OM 326(180 PS)***
OM 326(200 PS)*
OM 326(172 PS)**

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 - 0,1 mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,1 - 7,6	0,4			
	6	2,1 - 3,3				
	12	11,3 -12,8				
200	9	4,4 - 6,1				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

Upper rated speed: Degree of deflection of control lever 1	rev/min Control rod travel mm 2	Control rod travel mm rev/min (1a) (2a) 3	Intermediate rated speed: Degree of deflection of control lever 4	rev/min 5	Control rod travel mm (4) 6	Lower rated speed: Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3) 9	Sliding sleeve travel (1): rev/min 10	mm 11
65±1,5	1100	15 - 18				10±1,5	150	7,6-8	1100	0
	1140	9,4- 14					250	5 -6,5	1000	0,1-0,3
	1180	4- 10					400	3,6-4	800	0,4-0,6
	1220	0- 6					600	1,6-2,6	600	0,4-0,6
	1280	0				(3a)	760	0		

Torque control travel a = 0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) (2): rev/min 1	cm³/1000 strokes 2	Rotational-speed limitation (2b) intermediate speed (4a): rev/min 3	Fuel delivery characteristics (5a) high idle speed (5b): rev/min 4	cm³/1000 strokes 5	Starting fuel delivery (6) idle switching point: rev/min 6	cm³/1000 strokes 7	Torque-control travel (5): rev/min 8	Control rod travel mm 9
1000	114,5-116,5		500	113,0-117,0				
			700	114,5-117,5				
			1100	113,0-117,0				

RS429
RS395y
RS516

./.

Checking values in brackets

* 1 mm less control rod travel than col 2

L20

BOSCH Geschäftsbereich KH Kundendienst Kfz-Ausrüstung.

B. Governor Settings

Checking of slider PRG check (1)		Full load speed regulation Setting point (4)		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

Torque-control travel on flyweight assembly dimension a = mm Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery on governor control lever Test oil temp 40°C (104 F) (2)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
	rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
	1	2	3	4	5	6	7
429z 395z 516z	700	91,0 - 93,0		500 1100	90,5 - 93,5 92,0 - 96,0		
516y 516Ay 2020y	700	97,0 -100,0		500 1080	95,0 - 98,0 99,0 -102,0		

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

Checking of slider PRG check (1)		Full-load speed regulation Setting point (4)		Test specifications (4)		Idle speed regulation Setting point		Test specifications (5)		Torque control (3)	
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11	12

Torque-control travel on flyweight assembly dimension a mm Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104 F) (2)		Control rod stop (3a)	Fuel delivery characteristics (3b)		Starting fuel delivery Idle speed (6)	
rev/min	cm^3/-1000 strokes	rev/min	rev/min	cm^3/-1000 strokes	rev/min	cm^3/1000 strokes / Control rod travel mm
1	2	3	4	5	6	7

Checking values in brackets

Test Specifications Fuel Injection Pumps and Governors

(1A)

VDT-WPP 001/4 KRU 7,2 e
Edition 2.64

En

PE 5 A 85 B 320 LS 215 EP/RSV 400-1500 A 5 A 46
-D710 A 368

supersedes 20.7.60
company Krupp
engine D 573

346z, 2065z=D344

Set all cylinders to tappet clearance 0.3 + 0.05 mm at TDC; mark end of delivery on cylinder 1 (drive end).

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Testoil-ISO 4113

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm (2) 2	Fuel delivery cm³/100 strokes 3	Difference cm³/100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre tensioning (torque control valve) mm 6
1000	9	3,8 - 4,3				
	6	0,5 - 1,2				
	12	6,4 - 7,4				
	9	1,1 - 1,9				
200	21	10,6 -12,9				

Adjust the fuel delivery from each outlet according to the values in ☐

B. Governor Settings

(1) Upper rated speed rev/min Degree of deflection of control lever 1	Control rod travel mm 2	Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6	(4) Lower rated speed Control lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	(3) Torque control rev/min 10	Control rod travel mm 11
ca.58	1500	16	without auxiliary spring	ca.18	400	6	1480	0
	1540	9,4			100	19 - 21	580	0
	1580	4			400	5,7-6,3	440	1,2-1,8
	1530	10 - 13			450	4 - 5		
	1550	6,5 - 10	with auxiliary spring		500	1,4-2,4		
(2a)	1600	2 - 4			600	0 - 1		
	1700	0 - 1						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104 F) rev/min 1	cm³/1000 strokes 2	(6) Rotational speed limitat Note changed to) rev/min 3	(3a) Fuel delivery characteristics rev/min 4	cm³/1000 strokes 5	Starting fuel delivery Idle (5) rev/min 6	cm³/1000 strokes 7	(4a) Idle stop rev/min 8	Control rod travel mm 9
1480	88 - 90						n 400 (→ .	RW 6 A 368)

Checking values in brackets

* 1 mm less control rod travel than col 2